
From:
Sent: Tuesday, October 14, 2003 9:06 AM
To:
Subject: FW: NSSGA comments on MSHA's NPRM for Diesel Particulate Exposure of Underground Metal and Nonmetal Miners



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-----Original Message-----

From: tbrown [mailto:tbrown@nssga.org]
Sent: Monday, October 13, 2003 5:06 PM
To: 'comments@msha.gov'
Cc: Jim Sharpe
Subject: NSSGA comments on MSHA's NPRM for Diesel Particulate Exposure of Underground Metal and Nonmetal Miners

Please see the attached documents for NSSGA's cover letter and comments on the above referenced Proposed Rulemaking. Hard copy is also being sent via USPS 1st class mail. Please call if you have trouble viewing/opening the attachments.

Thank you,
Trudi M. Brown
ESH (Temp) Admin Assistant
NSSGA
tbrown@nssga.org
703-525-8788 x1063

**MSHA Docket
No. AB29-COMM-28**

NATIONAL STONE, SAND & GRAVEL ASSOCIATION



Natural building blocks for quality of life

October 13, 2003

Mr. Marvin W. Nichols

Director, Office of Standards, Regulations, and Variances

Mine Safety and Health Administration

1100 Wilson Blvd., Room 2313

Arlington, VA 22209-3939

By fax: 202-693-9441

By e-mail: comments@msha.gov

Dear Mr. Nichols:

The National Stone, Sand & Gravel Association (NSSGA) is pleased to offer the attached comments to the Mine Safety and Health Administration (MSHA) on MSHA's Notice of Proposed Rulemaking (NPRM) for Diesel Particulate Exposure of Underground Metal and Nonmetal Miners, 68 Fed. Reg. 48668 et seq. (August 14, 2003).

The majority of the underground mines covered by the proposed rule produce lime and limestone products, and many are owned and operated by NSSGA member companies. NSSGA, based near the nation's capital, is the world's largest mining association by product volume, representing 800 member companies and approximately 120,000 working men and women in the aggregates (construction materials) industry. During 2002, a total of about 2.73 billion metric tons of crushed stone, sand and gravel, valued at \$14.6 billion, were produced and sold in the United States.

NSSGA has consistently adopted policies and positions that promote miner health and safety, and support implementation of feasible technology to advance workplace protections. Our members fully cooperated with MSHA in its in-mine studies of diesel particulate matter, and we have joined with the agency in sponsoring educational sessions to alert mine operators to their compliance obligations, to inform miners of health issues, and to ensure that maximum feasible protections are afforded to all workers in the stone, sand and gravel industries. We also generally support those features of the Diesel Particulate Matter (DPM) Final Rule already in effect.

For the reasons set forth in the attachment, NSSGA urges MSHA to make significant modifications to its NPRM because it has:

- Regulated based upon faulty assumptions as to technological and economic feasibility;
- Made inaccurate findings with respect to health risks associated with diesel particulate matter ("DPM") exposure;
- Mandated the use of the NIOSH 5040 method absent any evidence that it can accurately measure DPM exposure at the final Permissible Exposure Limit;

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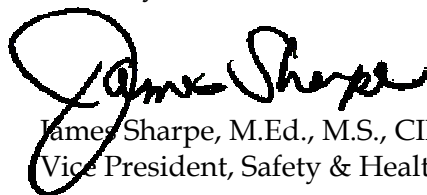
- Improperly limited options available to mine operators and workers to control exposure in the workplace;
- Failed to comply with the requirements of the Regulatory Flexibility Act with respect to analyzing the true economic impact of its proposal on mines, both large and small;
- Submitted a flawed and deceptive Preliminary Regulatory Economic Analysis to the U.S. Small Business Administration and improperly certified this rule as having no significant economic impact on small business; and
- Neglected to apply the Department of Labor and Office of Management and Budget's guidelines for data quality and reproducibility to the scientific studies and findings upon which the Agency relies in its DPM rulemaking.

In light of these deficiencies, we encourage the Agency to:

- Delete the final permissible exposure limit (PEL) as part of this rulemaking;
- Maintain the interim 400 ug/m³ concentration limit as the permanent PEL for DPM, converted to an appropriate elemental carbon equivalent;
- Permit worker rotation as a method of limiting miners' exposure to DPM;
- Permit use of sampling and analytical methods other than NIOSH Method 5040 to determine exposures; and
- Rescind its certification of the rule and revise its Regulatory Economic Analysis to truly reflect all costs associated with compliance arising from both the January 19, 2001, final rule and amendments to that rule set forth in this Notice of Proposed Rulemaking.

We very much appreciate the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read "James Sharpe". The signature is fluid and cursive, with a large initial "J" and "S".

James Sharpe, M.Ed., M.S., CIH
Vice President, Safety & Health Services

Attachment

NATIONAL STONE, SAND & GRAVEL ASSOCIATION

Testimony to the Mine Safety and Health Administration on its Proposed Rule for Diesel Particulate Matter Exposure of Underground Metal/Nonmetal Miners

October 13, 2003

Introduction, Scope, Summary and Comment

Based on the number of Metal/Nonmetal mines involved, MSHA's proposed diesel particulate matter (DPM) rule far and away is now having and will continue to have its greatest impact on underground stone mines, which the National Stone, Sand & Gravel Association (NSSGA) represents. Of the 182 underground dieselized Metal/Nonmetal mines, 110, or 60%, are stone mines, according to MSHA.¹ No other Metal/Nonmetal commodity comes close to this number of mines. Of these 110 underground stone operations, just under half, 54, are considered small by MSHA's definition of a small mine. All but one are considered small under the definition used by the Small Business Administration (SBA).

To summarize NSSGA's major points on the MSHA diesel rulemaking: we believe there is insufficient exposure-response information to justify establishment of occupational exposure limits for DPM at this time. We steadfastly oppose the final PEL both because of the dearth of exposure-response data, and because we believe the final PEL is neither technologically nor economically feasible, and therefore should be stricken from the regulation during this rulemaking. We support rotation of workers as a viable administrative control option, and oppose any attempt to impose further substantial record-keeping burdens on an industry already buried in regulatory paper, some of it quite unnecessary.

¹ US Department of Labor, Mine Safety and Health Administration, Office of Standards, Regulations and Variances, *Preliminary Regulatory Economic Analysis and Preliminary Regulatory Flexibility Analysis: Proposed Rule on 30 CFR Part 57: Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners*, July 2003, at 9. ("PREA").

NSSGA appreciates efforts made by MSHA over the past two years to better understand the impact of the regulation on operators, gather further information on controls, and aid operators with compliance assistance. We speak in particular of the 31-Mine Study, the baseline study, and widespread compliance activities including workshops and on-site evaluations. NSSGA is pleased to have assisted by conducting a diesel monitoring workshop with the Agency in December 2002, and by collaborating with the Agency through the Diesel Partnership. NSSGA also is grateful for the one-year extension in enforcement of the interim limit, and of MSHA's ongoing interest in listening to the concerns operators have about the regulation.

MSHA Must Comply with OMB/DOL Data Quality Guidelines

The Office of Management and Budget's ("OMB") "Data Quality Guidelines"² require agencies, in their own data quality guidelines, to submit data upon which the agency relies or disseminates to heightened scrutiny. The guidelines also establish administrative mechanisms that allow affected persons to seek and obtain correction of disseminated information if they believe such information does not comply with *either* the OMB or agency guidelines.³

The Data Quality Act requires that agencies "ensur[e] and maximiz[e] the quality, objectivity, utility, and integrity of" information. As explained in the government-wide OMB guidelines, objectivity involves two distinct elements, presentation and substance. With regard to the former, objectivity requires that information be presented in an "accurate, clear, complete, and unbiased manner." To achieve this mandate, the information must be "presented within a proper context." OMB's guidelines state: "Agencies are directed to develop information resources management procedures for reviewing and substantiating (by documentation or other means selected by the agency) the quality (including the objectivity, utility, and integrity) of information before it is disseminated."⁴

² US Office of Management and Budget, *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies*, 67 FR 8452 (Feb. 22, 2002), <http://www.whitehouse.gov/omb/fedreg/reproducible2.pdf>. Subsequent references to the OMB guidelines will refer to the Federal Register version. References to the DOL Guidelines will cite to the pages in the PDF version of these guidelines, which is available on the DOL website. That document is dated October 1, 2002.

³ *Ibid.*, at 8459.

⁴ *Ibid.*, at 8453.

The Department of Labor (“DOL”) data quality guidelines,⁵ which implement OMB’s data quality guidelines and the Data Quality Act, impose a number of substantive and procedural requirements on DOL and its agencies (including MSHA and OSHA) before they can disseminate most information, including proposed and final rules. It is important to note that agency compliance with the Data Quality Act and implementing guidelines is not discretionary. As OMB noted in an attachment to a memo to the President’s Management Council on preparation of agency guidelines,

... we ask that you do not include extraneous assertions that appear to suggest that the OMB and agency information quality standards are not statements of government-wide policy, i.e., government-wide quality standards, which an agency is free to ignore, based on unspecified circumstances. In addition, agencies should be aware that their statements regarding judicial enforceability might not be controlling in the event of litigation.⁶

The OMB, in issuing its guidelines, stated:

[I]f an agency, as an institution, disseminates information prepared by an outside party in a manner that reasonably suggests that the agency agrees with the information, this appearance of having the information represent agency views makes agency dissemination of the information subject to these guidelines.⁷

OMB and DOL guidelines apply particularly stringent data quality standards to information classified as “influential.” The guidelines define influential information as scientific, financial or statistical information that “will have a clear and substantial impact on important public policies or important private sector decisions.” With regard to rulemakings, influential information is information that “can reasonably be regarded as being one of the major factors in

⁵ US Department of Labor, Office of the Chief Information Officer, *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Department of Labor*, October 1, 2002. DOL’s Guidelines have been adopted by both MSHA and OSHA. References to the DOL Guidelines will cite to the pages in the PDF version of these guidelines, which is available on the DOL website.

⁶ Office of Management and Budget, Office of Information and Regulatory Affairs, *OIRA Review of Information Quality Guidelines Drafted by Agencies*, (June 10, 2003), at 10.

⁷ 67 Fed. Reg., at 8454.

the resolution of one or more key issues in a significant rulemaking, as the term is defined in Executive Order 12866.”

The definition of “significant regulatory action” in Section 3(f)(1) of Executive Order (EO) 12866 includes one that has “an annual effect on the economy of \$100 million or more” or that significantly impacts an industry.⁸ Thus, MSHA’s “certification”⁹ that proposed rule will not have an economic impact of \$100 million or more does not exempt it from being considered a “significant regulatory action” where – as here – the rule’s significant impact on underground stone mines threatens the ability of that sector to remain in operation. Moreover, in light of the true economic impact of the rule, the DPM rule must be considered “significant,” and therefore subject to application of the influential information criteria set forth in the Data Quality Guidelines.

Influential information is the most important information to be scrutinized under the OMB and DOL guidelines, and requires the highest level of quality. One of the specific requirements for influential information is reproducibility. As the OMB guidelines state, “OMB believes that a reproducibility standard is practical and appropriate for information that is considered ‘influential’...” The OMB guidelines go on to explain that even “The fact that the use of original and supporting data and analytic results have been deemed ‘defensible’ by peer-review procedures does not necessarily imply that the results are transparent and replicable.”¹⁰ In addition to the reproducibility requirement, both the OMB and DOL data quality guidelines require that the quality principles in the Safe Drinking Water Act Amendments of 1996 be applied to risk-related information.

DOL’s data quality guidelines spell out requirements for external peer review:

- a. peer reviewers should be selected primarily on the basis of necessary technical expertise;

⁸ US, Office of the President, *Executive Order 12866 of September 30, 1993: Regulatory Planning and Review*, 58 FR 51735, (Oct. 4, 1993). The PDF version is not paginated.

⁹ US Department of Labor, Mine Safety and Health Administration, 30 CFR 57, *Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners; Proposed Rule*, 68 FR (August 14, 2003), at 48718. (“NPRM”).

¹⁰ 67 Fed. Reg., at 8455.

- b. peer reviewers should be expected to disclose to agencies prior technical or policy positions they may have taken on the issues at hand;
- c. peer reviewers should be expected to disclose to agencies their sources of personal and institutional funding (private or public sector); and
- d. peer reviews should be conducted in an open (made public) and rigorous manner.¹¹

It is important to note that the DOL data quality guidelines apply to “information” that DOL (and, by extension, MSHA) disseminates to the public. The data quality guidelines apply to information generated by third parties if MSHA distributes information prepared or submitted by an outside party in a manner that reasonably suggests that MSHA endorses or agrees with it; if MSHA indicates in its distribution that the information supports or represents MSHA’s viewpoint; or if MSHA in its distribution proposes to use or uses the information to formulate or support a regulation, guidance, policy or other Agency decision or position.

Moreover, to the extent that policy and/or guidance documents contain “scientific” information, the DOL guidelines state such information should adhere to a rigorous standard of quality.¹² DOL recognizes that influential scientific information should be subject to a higher degree of quality than other types of disseminated information. A higher degree of transparency about data and methods will facilitate the reproducibility of such information by qualified third parties to an acceptable degree of imprecision.

Thus, in light of the purpose and plain language of OMB’s directive and E.O. 12866, it is necessary for MSHA to apply the DOL’s data quality guidelines to the scientific and technical data upon which the agency relies in its proposed rulemaking. These steps are particularly critical since the guidelines impose new requirements which became effective after the January 2001 final rule was promulgated, and because the NPRM incorporates many of the findings therein without a new, critical analysis of the validity of the Clinton Administration data which lacked the data quality scrutiny. Moreover, because some of the scientific and technical data contained in the August 14, 2003, NPRM have been developed by MSHA and published in the Federal Register after OMB’s data quality guidelines took effect and after DOL published its own guidelines in October 2002, this step must be taken to ensure the validity of the Agency’s

¹¹ DOL Data Quality Guidelines, at 7-8.

¹² Ibid., at 6-7.

determinations before significant burdens are imposed on the Metal/Nonmetal mining community.

MSHA has engaged in serious errors of judgment with respect to utilization of scientific, technical and economic data at every step of this rulemaking. It has engaged in substantive misrepresentation of the data cited, and has directly contradicted itself on multiple occasions with respect to the purported health benefits of this rule and the validity/feasibility of the target concentration limits. Some of these are explored below, but these comments do not claim to have documented every data error or internal inconsistency in MSHA's NPRM and supporting documents.

The Agency has not indicated that the 31-Mine Study – the data used by MSHA to conclude that compliance with the proposed permissible exposure limit (PEL) is both technically and economically feasible¹³ – has been approved through an external peer review process.¹⁴ The NPRM preamble is also devoid of any indication that the baseline sampling data, which MSHA disseminates in the rule and upon which it relies in its feasibility determinations, has been validated through an external peer review process.

MSHA admits that the data from one study that it disseminates and upon which it relies, “Sampling Results of the Improved SKC Diesel Particulate Matter Cassette,” is undergoing peer review, but has not yet been accepted for publication in a scientific journal.¹⁵ Yet MSHA quotes from an “abstract” of this study, and relies upon this document to demonstrate why use of the SKC devices is proper for determining compliance by mine operators with the interim exposure limit. The data on the efficacy of ceramic filters and biofuels that MSHA disseminates in this proposal similarly lacks peer review or other external validation.

¹³ MSHA acknowledges that there is a “lack of documented feasibility data for an interim proposed PEL of less than 308 micrograms per cubic meter of air,” and that it is “continuing to gather information on the feasibility of compliance with a final DPM PEL of less than 308 micrograms.” 68 Fed. Reg., at 48703. In light of this acknowledgment, MSHA has no option but to immediately withdraw the final concentration limit of 160 ug/m³ because it admits that it codified this final standard without supporting feasibility information.

¹⁴ Other study shortcomings admitted by MSHA include that the mines were not randomly selected and are thus not representative of the underground Metal/Nonmetal mining industry. 68 Fed. Reg., at 48678. No personal samples were taken of workers inside equipment cabs in the 31-Mine Study, although such samples were taken in the “baseline” study – making comparison of the two studies’ results an “apples/oranges” exercise.

¹⁵ 68 Fed. Reg., 48680.

Concerning “health effects” pronouncements in the current NPRM, MSHA states that the “benefits” of the January 2001 final rule include avoidance of “a minimum of 8.5 lung cancer deaths per year.” It then states that “the mean value of all the studies examined in the January 19, 2001, rule was 49 lung cancer deaths avoided per year.” There is no explanation in this document of how either figure was derived, or whether the Agency considered the new studies cited in the NPRM to determine if these cancer death projections were still valid. MSHA also claims additional health benefits resulting from reductions in deaths from cardiovascular, cardiopulmonary, or respiratory causes and reductions in risk of sensory irritation and respiratory symptoms.¹⁶ Yet, elsewhere MSHA admits that it did not include these health benefits in its estimates “because the Agency could not make reliable or precise quantitative estimates of them.”¹⁷ NSSGA observes that if such benefits cannot be quantified, then it is deceptive to make such claims at all, and MSHA’s action in doing so only serves to cloud the administrative record and raise health concerns where no quantifiable supporting data exist.

Significant data quality issues exist with respect to the “Health Effects Literature Update” set forth in the proposal.¹⁸ Although numerous studies are listed, these do not appear to be directly relevant to the mining industry – none of the summaries indicate that underground miners were included in the study cohorts. Despite the requirements of the Data Quality Guidelines, there is no information provided in the NPRM as to the peer review status of these studies, the strength of the studies, any adverse comments that have been published concerning the conclusions of these studies, or the availability of the study data to interested parties who might seek to replicate and independently validate the studies’ findings and inferences.

Findings in the final rule concerning occupational health risks from DPM exposure, and conclusions concerning technological and economic feasibility of the DPM standard were based on inadequate and inappropriate scientific data and literature at the time of promulgation of that rule. Adoption of these findings and incorporation by reference in the NPRM of the flawed scientific data from the original rule must, as a matter of law, subject the “data” contained in the January 2001 standard to renewed scrutiny under the now-effective OMB/DOL data quality guidelines.

¹⁶ Ibid., at 48705.

¹⁷ PREA, at 11.

¹⁸ 68 Fed. Reg., at 48689 through 48693.

NSSGA further notes that MSHA's DPM Risk Assessments (both in the 2001 final rule and in the instant 2003 NPRM) rely heavily on data generated and submitted by parties outside the Agency. Thus, these risk assessments and the scientific health and technical data used in them are "Influential Scientific Information" subject to the most stringent Data Quality Act standards because:

- Outside-party tests and data must also meet the Data Quality Act standards and DOL Guidelines before MSHA can use them in subsequent risk assessments or in other public;
- Some of these studies have not yet been completed or been validated through external peer review;
- The findings in some of these studies are both controversial and precedent setting; and
- MSHA's ultimate decisions with respect to regulation of occupational exposure to DPM will have a widespread and major economic impact on the mining industry and other private sector businesses.

For "Influential Scientific Information" of this nature, as noted above, the OMB/ DOL guidance requires that MSHA ensure reproducibility for disseminated original and supporting data according to commonly accepted scientific, financial, or statistical methods. Proper validation includes reproducibility among laboratories: before a new or revised test method is used to generate information to support regulatory decisions, it must be

- a) validated to determine its reliability and relevance for its proposed use, and
- b) determined to be acceptable by one or more regulatory agencies to fill a specific need.

Prior to initiation of any test method development or validation efforts, agencies must consider the validation and acceptance criteria developed by the Federal government.¹⁹ MSHA has adopted the NIOSH Method 5040 for enforcement sampling when it has not been properly validated for this purpose. Moreover, it is relying upon SKC sampling devices that were

¹⁹ See, e.g., *Evaluation of the Validation Status of Toxicological Methods: General Guidelines for Submissions to ICCVAM*, Prepared by Interagency Coordinating Committee on the Validation of Alternative Methods, *et. al.*, October 1999, at v.

modified midway through field research because of flaws identified that precluded proper sampling of DPM in the mining workplace. The lack of strong data concerning the efficacy of the newly modified SKC samplers, and the dearth of laboratory experience in using these samplers and the NIOSH 5040 method to measure elemental carbon exposures in underground Metal/Nonmetal mines betrays MSHA's representations concerning the validity of its proposed methodology.

In short, the origin, preparation, funding, review, and approval of the scientific data disseminated by MSHA in the January 2001 rule (and disseminated again by the incorporation by reference of those same studies and findings in the NPRM) are largely undocumented, and must be properly vetted under the currently applicable guidelines concerning peer review and transparency. OMB's interagency guidelines specify that they apply to information created or originally disseminated prior to October 1, 2002, if an agency continues to disseminate the information after that date.

MSHA has also included a 1.3 conversion factor in its proposal to move from a "total carbon" concentration limit (CL) to an "elemental carbon" PEL, yet admits "there is no perfect way to precisely quantify DPM."²⁰ It seeks information and data on the appropriateness of the 1.3 conversion factor that would establish an interim EC limit of 308 ug/m³. The Agency appears to rely on this number solely because, MSHA represents, the factor was agreed upon in the "settlement" that prompted this rulemaking. NSSGA notes that, absent validated scientific information, MSHA must refrain from selecting a number at random that lacks supporting data. It also notes that it was not a party to the settlement, and that even parties to the settlement question the validity of the 1.3 factor. Therefore, MSHA must fully explain, through peer reviewed and reproducible data, why the ultimate conversion factor selected is valid and will produce unquestionable data. This explanation must be provided since MSHA proposes to use this factor to obtain a PEL that will determine non-compliance through a single sample, and initiate litigation against mine operators result in civil penalties of up to \$60,000 per violation and even lead to criminal prosecution of individuals and companies. With stakes this high, neither MSHA nor industry can afford to rely on mere "guesses" as to an appropriate conversion factor.

²⁰ 68 Fed. Reg., at 48706.

The 31-Mine Study and baseline sampling results, and the new scientific health studies listed and noted favorably by MSHA in the NPRM constitute influential scientific, environmental, health and/or safety data subject to the OMB/DOL guidelines for peer review, reproducibility, and transparency. This is obvious because there is a strong likelihood:

- (1) that both the United States and many other governments will be relying upon the facts and analyses cited in support of the scientific recommendations in the MSHA DPM rulemaking in developing a global strategy on regulation of both public and occupational exposure to diesel-powered equipment, and
- (2) that the U.S. Department of Labor, the Environmental Protection Agency (EPA), the National Institute for Occupational Safety and Health, the National Institute for Environmental Health Sciences and other federal agencies as well as international governmental agencies, through their reliance on information disseminated and favorably cited by MSHA in the DPM rulemaking, will subsequently incorporate the facts and analyses supporting the scientific recommendations in the MSHA rulemaking in deciding what guidance to include concerning use of diesel-powered equipment and public/occupational exposure to DPM.

Consequently, the OMB/DOL data quality standards require a pre-dissemination review of the studies and scientific research disseminated in the NPRM now – rather than moving forward to a final rulemaking without engaging in the review necessary under the Data Quality Act guidelines. Absent provision of this information pursuant to the data quality guidelines, NSSGA must demand that all of the studies discussed above be stricken from the administrative record for this rulemaking, and that MSHA refrain from relying upon any information contained in the studies or reports.²¹

²¹ It is ironic that MSHA refuses to wait for the findings of the ongoing NIOSH-NCI DPM study in the Metal/Nonmetal mining industry, the conclusions of which may be most directly relevant of all to this rulemaking, and instead remains committed to forging ahead to set exposure limits without compelling support in the scientific literature. Since MSHA is obligated under the Mine Act to consider the advice of NIOSH with respect to its health and safety findings, it is certainly premature to exclude this information from the rulemaking record on the DPM standard.

NSSGA recommends that, before proceeding further with a DPM rulemaking, MSHA adopt the general assessment factors already in place by the EPA regarding quality and relevance evaluation of influential health data. To wit:

- (1) **Soundness** - The extent to which the scientific and technical procedures, measures, methods or models employed to generate the information are reasonable for, and consistent with, the intended application.
- (2) **Applicability and Utility** - The extent to which the information is relevant for the Agency's intended use.
- (3) **Clarity and Completeness** - The degree of clarity and completeness with which the data, assumptions, methods, quality assurance, sponsoring organizations and analyses employed to generate the information are documented.
- (4) **Uncertainty and Variability** - The extent to which the variability and uncertainty (quantitative and qualitative) in the information or in the procedures, measures, methods or models are evaluated and characterized.
- (5) **Evaluation and Review** - The extent of independent verification, validation and peer review of the information or of the procedures, measures, methods or models.²²

MSHA has also misrepresented or otherwise obfuscated the economic and technical data upon which it relies in the NPRM. In quoting from its 31-Mine Study in the NPRM, MSHA initially hedges by stating the rule "may be feasible" while acknowledging the limited in-mine data on DPM control technology. It also recognizes its own position on feasibility "does not reflect consideration of current complications with respect to implementation of controls, such as retrofitting and regeneration of filters. MSHA acknowledges that these issues may influence the extent to which controls are feasible."²³ Instead it relies upon its "Estimator" - which does not reflect real world conditions and which assumes that all controls operate perfectly 100 percent of the time. MSHA ultimately concludes that the interim limit is technically and economically feasible - while providing no explanation for the internal inconsistencies of its position.

The data available upon which the Agency relies are ambiguous at best and wholly lacking at worst. To quote from MSHA's own statements in its PREA: "financial data are available for

²² See U.S. Environmental Protection Agency, *A Summary of General Assessment Factors for Evaluating the Quality of Scientific and Technical Information*, June 2003, at 4.

²³ 68 Fed. Reg., at 48670-48671.

only a few [metal/nonmetal mining] companies, and these data are not representative of the entire industry.”²⁴ MSHA similarly states: “We note that many of the assumptions and estimates of the cost components in this chapter rely exclusively on MSHA’s own knowledge and experience”²⁵ – knowledge and experience the Agency apparently believes it does not have to share with the affected members of the public.

MSHA has omitted many costs associated with the rule’s compliance or has made erroneous assumptions; e.g., that operators will conduct their own sampling and not seek outside industrial hygiene assistance, and that operators will not need to employ outside consultants to make determinations about appropriate engineering controls, perform the engineering studies to implement such controls, or even advise mines on filter selection and maintenance issues. The \$25 per mine average cost for implementation of this rule on an annual basis is a gross under-estimate, as it will cost more than this in person-hours simply to read the rule! MSHA must completely revamp its economic impact analysis before proceeding further with this rulemaking and make it available for review by the general public.

MSHA has erroneously concluded that the rule will not have a “significant” economic impact on the affected commodity sectors and that the rule is both technically and economically feasible.²⁶ These unsupported assertions fly in the face of the OMB/DOL data quality guidelines, the statutory requirements of the Regulatory Flexibility Act, the plain language of EO 12866, and totally undermine any credibility of its PREA for the proposed rule.

MSHA must make substantial changes in its proposed DPM rule, particularly with respect to the health risk assessment and its assumptions concerning technical and economic feasibility, to comply with the Data Quality Act and other good government laws. NSSGA further specifically requests, pursuant to the Data Quality Act and the OMB/DOL information quality guidelines, that the information contained in the MSHA DPM rule concerning the 31-Mine Study be corrected to clarify deficiencies, concerns articulated by the participating mines that

²⁴ PREA, at 7.

²⁵ Ibid., at 13.

²⁶ The vast understatement of true economic impacts from this rule and the underlying January 19, 2001, standard, is explained in detail in other portions of these comments as well as in technical reports prepared by H. John Head, a mining engineer who is serving as a consultant to the MARG diesel coalition. NSSGA directs MSHA’s attention to those cost estimates and technical reports, which it endorses.

are not correctly reflected in the NPRM, mitigating information concerning lack of feasibility in attaining both the interim and final CLs, and problems arising regarding DPM control technology. In addition, MSHA may not properly rely upon the data contained in this study, nor the other “new” scientific and technical reports referenced in the NPRM, until external peer review has been completed in accordance with the data quality guidelines referenced above.

To comply with both the letter and spirit of the OMB/ DOL data quality guidelines, as applied to the NPRM, MSHA must take the following steps:

1. Publish a ***Federal Register*** notice discussing compliance of the information in the proposed rule with OMB/DOL data quality standards and requesting public comment.
2. Provide, based on sound analytic techniques and reliable data sources, a good estimate of the extent to which the proposed standards would improve mine safety and health in light of the best available scientific evidence that has been subject to external peer-review and is capable of replication (in accordance with the guidelines), including a quantified estimate of the benefits of each proposed section of the standard.
3. Characterize, based on sound analytic techniques and reliable data sources, a good estimate of the costs of each proposed section.
4. Ensure that the conclusions from the studies and other influential research data have utility, including the ability to objectively determine what DPM health standards should be established to achieve a specific level of risk reduction.
5. Document or otherwise substantiate the quality of all information disseminated in the rulemaking.
6. Document the application of the data quality guidelines to third-party data.
7. Demonstrate that MSHA’s conclusions are based on the Agency’s actual evidence and that the information fulfills the Agency’s intention of improving mine safety and health.
8. Clearly identify the specific sources of all third-party information utilized, and disclose any funding that these third parties have received from MSHA and/or the DOL that could bias their conclusions or recommendations.
9. Make public the Agency’s additional data on the key information items discussed above.

10. Apply the OMB/ DOL standards for “influential information” to the 31-Mine Study, the reports containing MSHA’s baseline sampling information and testing done concerning DPM reduction technology, and the data concerning the efficacy of filtration devices and alternative fuels, including the requirement to demonstrate that the test/study/research results are transparent and replicable.

Finally, NSSGA notes that OMB recently proposed additional guidance on peer reviews.²⁷ On the likely assumption this proposed guidance takes effect more or less in its present form on its target date of January 1, 2004, it would appear that MSHA will have to conduct a scientifically-rigorous peer review of the data contained in the NPRM, consistent with this latest OMB guidance re: peer-review standards and procedures before the Agency can rely on any of the facts and analyses contained therein or incorporate these data in its ultimate DPM rulemaking.

The Data Quality Guidelines Apply to Rulemaking Activities and Are Judicially Enforceable

The relevant statutory text and legislative history demonstrate clear Congressional intent that these data quality guidelines, like the Information Dissemination requirements of the Paperwork Reduction Act (PRA), apply to any and all information that federal agencies have in fact made public. In contrast to the PRA’s separate Collection of Information requirements, there are no statutory exemptions from any of the PRA’s Information Dissemination requirements with respect to the data quality guidelines. Thus, any attempts by OMB or DOL to claim “exemptions” violate clear Congressional intent.

The PRA’s Information Dissemination requirements are separate from the PRA’s Collection of Information requirements.²⁸ One express purpose of the PRA’s Information Dissemination requirements is to “ ... improve the quality and use of Federal information to strengthen decision-making, accountability, and openness in Government and society.”²⁹ The legislative history accompanying the 1995 PRA amendments that added most of the Information Dissemination requirements, H.R. 830, 104th Cong. (1995), explains that these amendments

²⁷ US Office of Management and Budget, Executive Office of the President, *Proposed Bulletin on Peer Review and Information Quality*, 68 FR (September 15, 2003), at 54023.

²⁸E.g., 44 U.S.C. §§ 3502(3), (12); 3504(c),(d); 3506(c),(d).

²⁹44 U.S.C. § 3501(4).

“promote[] the theme of improving the quality and use of information to strengthen agency decisionmaking and accountability and to maximize the benefit and utility of information created, collected, maintained, used, shared, disseminated, and retained by or for the Federal Government.”³⁰

The recently enacted Data Quality Act³¹ does not affect the PRA’s Collection of Information requirements. Instead, it amends the PRA’s Information Dissemination requirements in several respects:

- First, the Data Quality Act establishes statutory deadlines for OMB’s promulgation of interagency data quality guidelines under section 3504(d)(1), 44 U.S.C. § 3504(d)(1) of the PRA’s Information Dissemination requirements, and under OMB’s PRA rulemaking authority. Second, the Data Quality Act requires that OMB’s interagency data quality guidelines “provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies....”
- Third, the Data Quality Act requires that OMB’s interagency data quality guidelines “shall...apply to the sharing by Federal agencies of, and access to, information disseminated by Federal agencies....”
- Fourth, the Data Quality Act requires that all federal agencies subject to the PRA promulgate their own data quality guidelines by a statutory deadline.³² These individual agency data quality guidelines must comply with OMB’s interagency section 3504(d)(1) guidelines.³³ Fifth, the Data Quality Act requires that OMB’s interagency data quality guidelines require all federal agencies subject to the PRA to establish administrative processes allowing “affected persons to seek and obtain correction of information maintained and disseminated by the agency that does not comply with” OMB’s interagency guidelines.³⁴

³⁰H. Rep. No. 104-37, at 35 (Feb. 15, 1995).

³¹44 U.S.C. § 3516.

³² Ibid.

³³44 U.S.C. §§ 3504(d)(1); 3506 (a)(1)(B); 3516.

³⁴ Ibid., at § 3516.

The relevant statutory text and legislative history demonstrate clear Congressional intent that there is only one restriction on the terms “disseminated” or “dissemination”: they only apply to information that an agency in fact makes public. The PRA defines “Public Information,” as used in the PRA’s Information Dissemination provisions, to mean “any information, regardless of form or format, that the agency discloses, disseminates, or makes available to the public.”³⁵

We note that the National Highway Traffic Safety Administration (NHTSA), an agency within the U.S. Department of Transportation, confirms that data quality guidelines are applicable in rulemaking activities, including application to information submitted to the rulemaking record that may be relied upon or otherwise disseminated by the Agency. As NHTSA recently explained in its proposed rulemaking to amend Federal Motor Vehicle Safety Standard No. 208: “Please note that pursuant to the Data Quality Act, in order for substantive data to be relied upon and used by the agency, it must meet the information quality standards set forth in the OMB and DOT Data Quality Act guidelines. Accordingly, we encourage you to consult the guidelines in preparing your comments.”³⁶ In light of this, NSSGA urges MSHA to ensure that any information submitted by commenters on the NPRM which may influence the Agency’s position also be subject to the highest level of scrutiny and conform with the influential information criteria set forth above.

In summary, there is no basis for concluding that Congress intended any exemptions from the terms “dissemination” and “disseminated” when it used those terms in statutory “Information Dissemination” requirements from which there clearly are no exemptions. Given the statutory text and legislative history, neither OMB nor MSHA has discretion to create any exemptions from the data quality guidelines required by the PRA.³⁷ The scientific and technical data disseminated by, and relied upon by, MSHA in the course of its DPM rulemaking are subject to the data quality guidelines calling for peer review, transparency, and reproducibility.

³⁵Ibid, at § 3502(12).

³⁶ 68 FR 46539, 46542 n.4 (Aug. 6, 2003).

³⁷ See *U.S. Department of Defense v. Federal Labor Rel. Auth.*, 510 U.S. 487, 494 (1994) (The Freedom of Information Act represents a general Congressional intent of full disclosure of government information, and any exemption must be stated in clearly delineated statutory language); *Dole v. United Steelworkers of America*, 429 U.S. 26 (1990) (OMB has no discretion to interpret the PRA in a manner that conflicts with clear Congressional intent).

The Data Quality Act (DQA) and its implementing guidelines are judicially enforceable in no small part because of the Act's express language in §3506(a), which provides that each agency "shall be responsible . . . for complying with" OMB guidelines. The DQA is anchored in the PRA. It fits together with the PRA, which itself contains mandatory language and specifies processes as well as substantive standards. OMB "filled in the legislative gaps" with its guidance. The agencies further filled in gaps with their regulations to implement these mandatory requirements. If the DQA is a "good government" statute like the Federal Advisory Committee Act and the Freedom of Information Act, courts will police the implementation of DQA and other such statutes.

NSSGA stresses that the statute does not exclude judicial review. It commits nothing to agency discretion by law and there is "law to apply."³⁸ A strong judicial presumption of the availability of judicial review exists in the absence of any indication that Congress intended to preclude review. Exhaustion of administrative remedies occurs through the challenge and appeals processes that render issues well defined and ripe for judicial review. While DOL has included language in its guidelines to try to excuse the Agency from judicial review, courts tend to look past such language to the statute itself and its good government purposes.³⁹ Thus, MSHA ignores at its peril the DQA's requirements for scrutiny of the influential scientific and technical data it disseminated in its NPRM.

MSHA's Economic Analysis Fails To Comply with Regulatory Flexibility Act Requirements

When promulgating a standard, MSHA must comply with the requirements in the Regulatory Flexibility Act (RFA).⁴⁰ The RFA requires each federal agency to review its proposed and final rules to determine if the rules will have a "significant economic impact on a substantial number of small entities." If a proposed rule is expected to have such an effect, an initial regulatory flexibility analysis (IRFA) must be prepared and published in the *Federal Register* for public comment. If the analysis is lengthy, the agency may publish a summary and make the analysis available upon request. The RFA applies to any rule subject to notice and comment rulemaking

³⁸ See *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402 (1971).

³⁹ See generally, *Learning to Live With The Data Quality Act*, 33 ELR 10224 (Environmental Law Institute, March 2003).

⁴⁰ 5 U.S.C. § 601-612

under Section 553(b) of the Administrative Procedure Act⁴¹ or any other law. Thus, its provisions are binding on MSHA when promulgating the instant DPM standard under notice-and-comment rulemaking procedures.

The IRFA must describe the impact of the proposed rule on small entities. The initial analysis must also contain a comparative analysis of alternatives to the proposed rule that would minimize the impact on small entities and document their comparative effectiveness in achieving the regulatory purpose. In the preliminary analysis conducted by MSHA with respect to the NPRM, MSHA illegally failed to perform the requisite comparative analysis of alternatives to its proposal to set a PEL of 308 ug/m³_{EC}, use a 1.3 conversion factor between total carbon and elemental carbon, ban worker rotation as an acceptable administrative control, or reduce the paperwork and other requirements associated with mandates for a diesel control plan. Thus, the mandates of the RFA have been violated, and the proposed rule must be deemed invalid.

When an agency issues a final rule, it must prepare a Final Regulatory Flexibility Analysis (FRFA) unless the agency head certifies the rule will not have a significant economic impact on a substantial number of small entities and provides a statement containing the factual basis for the certification. The FRFA must:

- provide a succinct statement of the need for, and objectives of, the rule;
- summarize the issues raised by public comments on the IRFA (or certification) and the agency's assessment of those issues;
- describe and estimate the number of small entities to which the rule will apply or explain why no such estimate is available;
- describe the compliance requirements of the rule, estimate the classes of entities subject to them and the type of professional skills essential for compliance;
- describe the steps followed by the agency to minimize the economic impact on small entities consistent with the stated objectives of the applicable statutes; and
- give the factual, policy, and legal reasons for selecting the alternative(s) adopted in the final rule, explaining why other alternatives were rejected.

⁴¹ Ibid., at § 551 et seq.

The FRFA may be summarized for publication with the final rule; however, the full text of the analysis must be available for review by the public. NSSGA notes that MSHA failed to adhere to these specific requirements when it promulgated the January 19, 2001, final rule that initially established DPM requirements for underground Metal/Nonmetal mines, the rule which would be somewhat modified in the instant rulemaking. Thus, the whole DPM regulatory framework is invalid and should be rescinded.

MSHA's Certification of the NPRM Is Invalid and Violates RFA, SBREFA, the Truth in Regulating Act, and EO 12866

The Small Business Regulatory Fairness Enforcement Act of 1996 (SBREFA)⁴² amends the RFA. SBREFA provides for judicial review of "certifications" under the RFA, where an agency certifies that a regulation will not have a significant economic impact on small business. SBREFA also added provisions requiring Congressional review of "major rules." Major rules are those with either \$100 million in economic impact, or which have a major impact on industry or affect competition, productivity or international trade.

A FRFA is required for all final rules, unless the agency certifies that the final rule will not have a significant impact. In this case, MSHA has said in its NPRM there will be no such impact. NSSGA challenges this certification because:

1. The regulatory economic analysis upon which it is based is inherently flawed;
2. MSHA considered the economic impact of the proposed changes in isolation rather than considering the entire impact of the January 21, 2001, final DPM rule as it would be modified by the proposed changes; and
3. MSHA's PREA has not been peer-reviewed, and is based on data that have not been fully disclosed for comment and review by the regulated community, as well as data that fail to satisfy DQA requirements.

If the certification is, in fact, improper, then MSHA must provide a final regulatory economic impact analysis when it finalizes this rulemaking, and must ensure that the data disseminated

⁴² Pub. L. 104-121.

therein satisfy the disclosure and transparency requirements under the DOL data quality guidelines.

The Truth in Regulating Act of 2000 (Pub. L. 106-312) also defines “economically significant rule” as any proposed or final rule that may have an annual effect on the economy of \$100 million or more, or

1. may adversely affect in a material way the economy;
2. *a sector of the economy*;
3. productivity;
4. competition;
5. jobs; or other factors.

As noted previously, EO 12866⁴³ defines “significant regulatory action”; the EO definition is nearly identical to that in the Truth in Regulating Act.

Thus, because of the disproportionately high impact of the proposed rule on the underground crushed stone industry, the difficulty of this industry sector to comply with the proposed PEL consistently, and of its inability to comply with the final PEL despite use of engineering and administrative controls, this economic sector will be adversely affected in a material way. The subject matter of this rule also raises legitimate questions as to whether MSHA has created a serious inconsistency or otherwise interfered with the EPA’s prior regulation of diesel fuel and diesel-powered off-road equipment.

In short, MSHA’s DPM rule must be considered “economically significant” under the statutory criteria and EO 12866. Thus, its certification was invalid and full scrutiny under the RFA must be afforded this rulemaking. The implications of failing to do so are explained below.

The U.S. Small Business Administration (SBA) Office of Advocacy interprets the “factual basis” requirement to mean that, at a minimum, a certification should contain a description of the

⁴³ 58 Fed. Reg. 51,735 (Oct. 4, 1993). Another Executive Order, EO 13272, “Proper Consideration of Small Entities in Agency Rulemaking,” was signed by President Bush on August 13, 2002, and requires federal agencies to publish how they will comply with the statutory mandates of the RFA. NSSGA reminds MSHA of this regulatory requirement that is also applicable to the DPM rulemaking. *See* 67 Fed. Reg. 53,461 (Aug. 13, 2002).

number of affected entities and the size of the economic impacts, and why either the number of entities or the size of the impacts justifies the certification. The agency's reasoning and assumptions underlying its certification should be explicit in order to elicit public comment.

Again, agency certifications in final rules are subject to judicial review. Thus, certifications of "no significant economic impact on a substantial number of small entities" have major legal implications for agencies. Consequently, certifications that simply state that the agency has found that the proposed or final rule will not have a significant economic impact on a substantial number of small entities are not sufficient under section 605(b).

The "more than just a few" standard for determining if a rule will have an impact on a "substantial number of small entities" is a rigorous test for agencies to follow. However, the Office of Advocacy encourages a conservative approach. In other words, if an agency has miscalculated the impacts of a regulation because its standard for determining "substantial number" was set too high, the certification may give rise to avoidable court challenges.

When an agency does not have quantitative data to support its certification, the agency should explain why such data are not available and request comments. MSHA has inexplicably failed to do so in the instant rulemaking and simply states that some of the data relied upon are based on MSHA's own knowledge and experience. NSSGA points out that Section 607 of the RFA directs agencies to provide a "quantifiable or numerical description of the effects of the proposed rule or alternatives to the proposed rule," and allows a qualitative approach if "quantification is not practical or reliable." Thus, MSHA was obligated to make a reasonable effort to acquire quantitative or other information to support analysis of the rules under sections 603 and 604 of the RFA. It has failed to do so.

In its PREA, MSHA states that "based on its analysis of compliance costs, MSHA has determined that this standard would not have an annual effect of \$100 million or more on the economy and, therefore, it is not an economically significant regulatory action pursuant § 3(f)(1) of Executive Order 12866."⁴⁴ MSHA appears to have ignored other factors in determining whether or not the rule is "economically significant." In fact, of the 182 underground Metal/Nonmetal mines affected by the rule, all but four of which are classified by the SBA as small business entities, will suffer a significant economic impact. The impact will come both

⁴⁴PREA, at 1.

from the changes set forth in the NPRM, and from the costs arising from the original, invalid January 19, 2001, DPM standard. As stated in this testimony, the earlier rule failed to accurately assess the economic impact on these small business entities. Therefore, MSHA's certification of this rule is invalid, and the rulemaking cannot proceed until a proper review and economic analysis is performed.

There also appears to be some question whether or not MSHA consulted with SBA's official in charge of MSHA rulemaking activities, or that SBA indicated MSHA's economic analysis was a reasonable basis of the certification.⁴⁵

MSHA performed its PREA using its "traditional" definition of small mine (<20 employees), in addition to SBA's definition (<500 employees). SBA's definition is the only legal definition for the purposes of RFA. The Small Business Act directs the SBA to set the standards by which a business is considered small according to the industry in which it operates. According to the SBA's standards, "mining concerns must have 500 or fewer employees to be considered 'small.'"⁴⁶

Using the power given to her by SBREFA, the U.S. District Court found that "[b]y using a definition other than the SBA's, the Bureau of Land Management violated the procedure of law mandated by the statute."⁴⁷ In another relevant case,⁴⁸ the U.S. District Court found that a federal agency violated the RFA when it certified no significant economic impact would result to a substantial number of small entities because the fishing quota would remain unchanged. The court remanded the matter to the agency with instructions to perform a proper analysis, because even though the quota was the same, the Agency provided no data to show that the quota was still valid.

⁴⁵Telephone conversation with Charles A. Maresca, Assistant Chief Counsel, Office Of Advocacy, SBA, (October 7, 2003).

⁴⁶ The SBA notes that the size of the business, government unit, or not-for-profit organization being regulated has a bearing on its ability to comply with federal regulations. For example, the costs of complying with a particular regulation – measured in staff time, record-keeping, outside expertise, and other direct compliance costs – might be roughly the same for a company with sales of \$10 million as for a company with sales of \$1 million. In a larger business, however, the costs of compliance can be spread over a larger volume of production. For small entities, a burdensome regulation could affect the ability to set competitive prices, devise innovations, or even make a profit. See SBA's *A Guide for Government Agencies: How to Comply with the Regulatory Flexibility Act*, July 2003, at 1.

⁴⁷*Northwest Mining Ass'n v. Babbitt*, 5 F. Supp. 2d 9, 14 (D.D.C. 1998).

⁴⁸*North Carolina Fisheries Association v. Daley*, 16 F. Supp. 2d 647 (E.D. Va. 1997).

In yet another court ruling,⁴⁹ the District Court found the certification analysis performed by the Animal and Plant Health Inspection Services (APHIS), U.S. Department of Agriculture, was inadequate. The court found that APHIS' determination of a lack of significant economic impact on a substantial number of small entities was based on its conclusion that there was a negligible risk of pest introduction. The court considered the risk assessment flawed, and thus remanded the final rule to the defendants for consideration of the economic impact that the importation of Argentine citrus will have on small businesses.

However, the landmark legal decision recognizing an agency's failure to adequately examine the impact on affected entities before certification is a 1998 Florida case.⁵⁰ Here, although the Agency published a FRFA at the time it finalized the rule, the court found that the Agency certified without making a "reasonable, good-faith effort," prior to issuance of the final rule, to inform the public about the potential adverse effects of its proposals and about less harmful alternatives. The court concluded that preparing a FRFA constituted "an attempt to agreeably decorate a stubborn conclusion" that there was no significant impact on a substantial number of small entities. The court remanded the Agency's certification determination, requiring it to "undertake a rational consideration of the economic effects and potential [regulatory] alternatives."

Similarly, MSHA's January 19, 2001, final rule establishing a DPM standard made little attempt to justify its decision-making process through sound data. It has done little to correct the errors of the past in the new NPRM. Thus, MSHA has improperly masked the true impact of this rule by repeatedly using its own, unapproved, "20 employee" threshold to classify mines as "small" for purposes of the DPM rulemaking, and has otherwise improperly certified this NPRM with respect to the significant economic impact on a substantial number of small entities.

It is important to note that although the IRFA is not judicially reviewable, a proper IRFA is necessary to provide the foundation for a good FRFA. An agency cannot develop an adequate FRFA if the IRFA did not lay the proper foundation for eliciting public comments, and seeking additional economic data and information on the regulated industry's profile and regulatory

⁴⁹*Harlan Land Co. v. United States Department of Agriculture*, 186 F. Supp. 2d 1076 (E.D. Cal. 2001).

⁵⁰*Southern Offshore Fishing Association v. Daley*, 995 F. Supp. 1411 (M.S. Fla. 1998).

impacts.⁵¹ Further, without an adequate IRFA, small entities cannot provide informed comments on regulatory alternatives that are not adequately addressed in the IRFA. MSHA's poorly executed PREA has indeed hampered NSSGA's ability to respond through these comments, as little legitimate data are provided to which the Association can respond.

In summary, judicial challenge is likely under RFA and other applicable statutes if MSHA's NPRM is adopted without a revision of MSHA's PREA, and preparation of a factually accurate FRFA that gives both full consideration to alternative regulatory schemes, and provides quantifiable economic and technical data vetted through the OMB/DOL data quality guideline process.⁵²

MSHA's Rush to Regulate in 2001 Was Arbitrary and Capricious

The current rulemaking is the latest evolution of rules that have their genesis in the final DPM rule issued on January 19, 2001, the last day of the previous Administration, which, as previously noted, MSHA has incorporated by reference into the current rulemaking. MSHA's rush to publish a rule constitutes arbitrary and capricious behavior for a number of reasons.

In its haste, MSHA failed to peer-review its final risk assessment in support of the final rule, even though, apparently recognizing the importance of peer review, the Agency had peer reviewed an earlier version of the risk assessment. The seven so-called Haney industrial hygiene studies were also not peer-reviewed. These studies were completed during 2000 in response to concerns by industry about interferences in MSHA's recommended DPM sampling method, and formed the basis for MSHA's decision to incorporate provisions requiring use of the submicron impactor into the final rule. NSSGA supports, and incorporates by reference, all comments made about these reports submitted for the record by MARG on July 31, 2000, and, due to the lack of scientific scrutiny these studies were subject to, further supports a motion made by the National Mining Association to have these documents stricken from the record.

⁵¹Ibid, at 1434 and 1436 ("the agency could not possibly have complied with § 604 by summarizing and considering comments on an IRFA that NMFS never prepared").

⁵² Court cases have held that the agency must account for the public comments it received challenging the initial determination that no significant economic impact was likely. *See generally, National Truck Equip. Ass'n v. NHTSA*, 919 F.2d 1148 (6th Cir. 1990); *Northwest Mining Ass'n v. Babbitt*, 5 F. Supp. 2d 9 (D.D.C. 1998).

MSHA's response to industry's criticism illuminates the heady rush the Agency was in to get the rule out the door before the new Administration took office. MSHA, without offering any supporting documentation, cites the credentials and expertise of its analytical laboratory and personnel, as well as the personnel involved in the Haney studies, and goes on to say: "While the agency welcomes scrutiny of its work, and repetition by others, *it also recognizes that such efforts take time*" [emphasis added].⁵³ Could haste also have been the reason MSHA declined industry's request for a 30-day extension and a public hearing after MSHA reopened the rulemaking record on June 30, 2000 for 30 days to obtain public comment on additional documentation the Agency submitted into the record? Could hurry also have been involved in the cursory review OMB gave to the rule? NSSGA requests that MSHA enter into this rulemaking all documentation associated with its interaction with OMB under EO 12866 on the final 2001 rule.

At the time the 2001 rule was promulgated, NIOSH was in the midst of doing its own study of possible interferences with its 5040 analytical method for DPM. But MSHA brushed aside industry's plea to wait on the results of that study, saying the health risk to miners compelled it to take action to complete what by that time had become a nearly decade-long rulemaking.

Parenthetically, MSHA pointed that NIOSH supported MSHA's rulemaking. That may well be, but nowhere is it clear NIOSH supported setting mandatory exposure limits; in fact, NIOSH is charged with recommending exposure limits to regulatory agencies, but has pointedly failed to make any such recommendation regarding DPM. OSHA, MSHA's sister agency within the Department of Labor, an agency with responsibility for tens of thousands of worksites where DPM is present, has not done so either, nor has any other agency of government, such as the Department of Transportation, which regulates drivers of diesel trucks.

Interestingly, under the 2001 rule, miners exposed to oil mist and cigarette smoke were to be offered less protection under the regulation than other underground miners because, unlike carbonaceous interference sources, interferences associated with these two sources could not be factored out of the laboratory analysis of DPM samples using total carbon as the surrogate.⁵⁴ MSHA's solution was to perform area sampling to determine DPM exposures of miners

⁵³ US Department of Labor, Mine Safety and Health Administration, *Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners: Final Rule*, 66 FR 5706 (January 19, 2001), at 5728 ("Final Rule").

⁵⁴ *Ibid.*, at 5712.

working under these exposure conditions, and to require operators to insist that miners not smoke during their own DPM sampling of miners who are known smokers. Area samples cannot determine what miners' personal exposures are to a contaminant with anywhere near the level of accuracy of personal samples. Therefore, MSHA, in its final rule, offered less protection to these miners than to others. Nowhere in the Federal Mine Safety & Health Act of 1977 (Mine Act) is MSHA given authority to regulate miners differently; the relevant wording is that "*no* miner will suffer material impairment of health or functional capacity...." [emphasis added].⁵⁵

Use of total carbon, as opposed to elemental carbon, as a surrogate for DPM was unsupported at the time in the scientific community. So it wasn't good science but either very bad judgment or the hot furnace of hurry that led the Agency to adopt total carbon as the surrogate in its final rule. Its reasoning for doing so was that MSHA

does not at this time know the ratio between the amount of elemental carbon and the amount of dpm. Accordingly, rather than deal with the uncertainties in all samples which this approach would present, MSHA is going to use a method (i.e., sampling for both organic carbon and elemental carbon) that, if properly applied, provides accurate results.⁵⁶

MSHA took this action in the face of a clear recommendation from its own research agency, NIOSH, that elemental carbon, not total carbon, be used as the surrogate for DPM in field measurements. NIOSH also took the opportunity to state that measuring for elemental carbon would also reduce sampling costs, an important consideration for operators, particularly small ones, another point lost on the Agency, even though it is charged by EO 12866 and court decisions to choose less costly regulatory alternatives. NIOSH submitted its comments on July 31, 2000, yet MSHA disregarded them in its final 2001 rule. The Agency was also aware of an occupational exposure limit based on elemental carbon promulgated in 1996 by the Federal Republic of Germany.⁵⁷

⁵⁵ 30 USC § 801, 811(a)(6)(A) (Mine Act).

⁵⁶ Final rule, at 5712.

⁵⁷ Ibid., at 5846.

By dismissing this expert advice, the Agency violated Sec. 101 (a)(6)(A) of the Mine Act which states that “The Secretary in promulgating mandatory standards dealing with toxic materials or harmful physical agents under this subsection, shall set standards which most adequately assure *on the basis of the best available evidence* [emphasis added] that no miner will suffer material impairment of health or functional capacity... Additionally, the provision states, “In addition to the attainment of the highest degree of health and safety protection for the miner, other considerations shall be *the latest available scientific data in the field...*” [emphasis added]⁵⁸

The Agency still appears conflicted on the effectiveness of the 5040 Method. In its 31-Mine Study, as quoted in the proposed rule, MSHA said, “ No reasonable method of sampling was found to eliminate interferences from oil mist that would effectively measure DPM levels in the presence of ETS [environmental tobacco smoke] with TC as the surrogate.” However, in the very next paragraph, it says, “The NIOSH Method 5040 provides an accurate method of determining the total carbon content of a sample collected in any underground metal or nonmetal mine when the submicron impactor is used.”⁵⁹ If the second sentence is correct, why is the Agency proposing to switch the surrogate to elemental carbon from total carbon?

We would add parenthetically that we do not believe Congress, under the Mine Act, gave MSHA a mandate to perform research studies, as it has done during this rulemaking. It would seem that MSHA itself agrees. Why else would the Agency insert into the rule the following comment by an individual representing the United Mine Workers of America:

First of all, MSHA is not a research agency, it is a regulatory agency, so that it would be inappropriate for MSHA to initiate research.... It was not arbitrariness or indifference on MSHA’s part that it did not initiate research on coal miners; it was not within their mandate and it is inappropriate in any event.⁶⁰

The Agency’s violation of its own statutory authority, the Mine Act, doesn’t stop with its dismissal of expert advice. Section 101(a)(6)(a) requires that “other considerations” MSHA must weigh besides the latest available scientific data, are the *feasibility* of its standards. In the current rulemaking, MSHA says it “...has concluded that there is insufficient information

⁵⁸ Mine Act, pocketbook edition, at 13.

⁵⁹ NPRM, at 48670.

⁶⁰ Final rule, at 5764.

available to support the feasibility of lowering the DPM limit [below the interim limit] at this time.”⁶¹ When MSHA promulgated the DPM rule, it must have done so on the awareness it would be feasible to comply with the final PEL of 160 µg/m³ by January 20, 2006. To admit otherwise would put the Agency in the awkward position of being in violation of the feasibility requirement of the statute. Now, *nearly three years later*, the Agency asserts that it lacks “documented feasibility data” for a level less than the proposed interim PEL. Therefore, the Agency is saying that, where once it was certain the lower limit was feasible, now, after taking almost three additional years to examine the issue, it is not so sure.

MSHA claims 50% of all Metal/Nonmetal mines will apply for a special extension in 2004, and half that number in 2005.⁶² In other words, half the mines will be out of compliance in the first year and 25% the second year. Based on our experience with MSHA’s cost estimates, these numbers are most likely under-stated. Even so, do these double-digit percentages suggest the rule is feasible? In January 2006, the final PEL goes into effect. When that happens, we fully expect the percentage of noncompliant mines to skyrocket, raising anew doubts about the feasibility of the regulation. NSSGA believes that feasibility is demonstrated only when the overwhelming majority of mines can comply all the time. That is most certainly not the case here.

The Agency’s arbitrary and capricious behavior can also be seen in its cavalier dismissal of industry complaints at the time of the 2001 rule that the submicron impactor was not available in sufficient quantities for sampling. Get the old Bureau of Mines (BOM) specifications and then have a local machine shop use them to produce the impactors was MSHA’s advice. The Agency’s arrogant remark is a pointed admission the impactors were not commercially available. MSHA’s advice, it turns out, was not even consistent: MSHA comments on one page of the final rule that sapphire nozzles are more precise, yet on the preceding page asserts that results using either the BOM sampler or one commercially made would yield the same results!⁶³

According to NIOSH and industry sources, the impactor-cassette assembly was not available for field use before August 2002.⁶⁴ If so, that would throw into question all of the results from

⁶¹ NPRM, at 48703.

⁶² PREA, at 15.

⁶³ Final rule, at 5727 and 5726, respectively.

⁶⁴ NPRM, at 48680. MSHA actually sets the date later, to Nov. 1, 2002. MSHA said modifications, in part to “eliminate cassette leakage around the filters,” were incorporated into the design after that date. See NPRM, at 48706.

the 31-Mine Study, which was done in the fall of 2001, and was used by MSHA as justification for its recommended sampling methodology, use of elemental carbon as a surrogate, and for the EC/TC ratio that forms the basis of the current rulemaking. We note that MSHA, in its final 31-Mine Study report, painted a rosy picture of the relative ease involved for operators to comply, while glossing over (1) industry objections to the final report, (2) a request by industry including NSSGA not to include this flawed document into the rulemaking record, and (3) the fact that fully 25% of the samples in that study had to be voided.

But what could be more arbitrary and capricious than MSHA's blunder in advocating filters as the preferred control technology when it was known that some filters had their own set of safety and pollution problems. Could it have been a race to regulate that caused MSHA to overlook the fact that platinum-based filters are capable of producing levels of nitrogen dioxide (NO₂) above MSHA's regulatory limit of five parts per million (ppm) as a ceiling value? On the coal side, industry received reports some paper filters had actually caught on fire.

The result was that some well-meaning mine operators, following MSHA's advice, unwittingly exposed their miners to safety hazards as well as to elevated levels of a harmful air pollutant, forcing immediate evacuation of the affected area of the mine until levels could be brought under control. "We were actually driven out after two hours on one day," Rick Anderson of Stillwater Mining said in reference to the NO₂ levels.⁶⁵ He was referring to carefully controlled studies of filter technology underway during the summer of 2003 at his operation. Once the horse was out of the barn, the Agency issued a Program Information Bulletin on the problem in May 31, 2002.⁶⁶ The literature will show that this problem was known for years before MSHA publicly acknowledged it.⁶⁷ What other Agency assumptions regarding the efficacy of control technologies will operators learn about the hard way?

⁶⁵ US Department of Labor, Mine Safety and Health Administration, *Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Mines: Public Hearing*, Salt Lake City, UT, (September 16, 2003), at 51 ("MSHA Salt Lake City Hearing").

⁶⁶ US Department of Labor, Mine Safety and Health Administration, Program Information Bulletin PIB02-04, *Potential Health Hazard Caused by Platinum-Based Catalyzed Diesel Particulate Matter Exhaust Filters*, (May 31, 2002).

⁶⁷ Two publications of the Manufacturers of Emissions Control Association are relevant: *Emission Control of Diesel-Fueled Vehicles*, (March 1997), at 15, and *Catalyst-Based Diesel Particulate Filters and NO_x Adsorbers: A Summary of the Technologies and the Effects of Fuel Sulfur*, (August 14, 2000), at 4.

MSHA predicated its entire technical and economic feasibility analysis on the use of the Estimator, a computerized spreadsheet program that uses Microsoft® Excel software to help mine operators determine which control or combination thereof would be most appropriate to reduce DPM levels to required concentrations. However, as industry comments reveal, the Estimator is seriously flawed, in part, because it assumes perfect air mixing and the existence of effective ventilation for dilution of exhaust particulate.⁶⁸ Because the instrument itself is flawed, MSHA's feasibility conclusions must be considered invalid and therefore withdrawn.

In summary, MSHA has built a regulatory record on DPM based on nonpeer-reviewed research and analysis, in disregard of its statutory requirements under the Mine Act, on the basis of inherently flawed instruments, and in a manner that has subjected miners to other health risks and operators to unnecessary costs, all apparently in a mad dash to get a rule out the door during a politically favorable regulatory climate. This behavior is more than irresponsible, it may constitute regulatory misfeasance. The new Administration at MSHA can rightfully exclaim "Not Guilty." But it will assume the sins of its predecessor if it allows rulemaking on the final PEL to move forward. We urge the Agency in the strongest possible terms to drop the final PEL and to do so in this rulemaking.

Filters as a Control Option

MSHA's emphasis on filters is apparently based on its belief that this technology is the best, and perhaps only, cost-effective way to reach its disputed final PEL. Stone operators are particularly troubled by this recommendation, and see filtration as the choice of last resort. They hold this view for a number of reasons: filters are costly and of questionable durability; filtration systems present logistical problems, especially active systems, making them far less practical than passive systems; they may lead to stresses on engines, or, as we have seen, substitution of another pollutant or pollutants in the air the miners breathe for the one MSHA wants operators to control; a behavior change is required because most equipment operators resist active systems.

⁶⁸ H. John Head, *Technical and Economic Feasibility of New DPM Regulations*, report prepared by the Diesel Litigation Group, (May 21, 2002), at 1 ("Head, 2002").

The reluctance of stone operators to believe filters are a viable control technology can be seen in comments NIOSH made to MSHA in a recent letter:⁶⁹

With regard to the availability of filters and the interim standard, the experience to date has shown that while diesel particulate filter (DPF) systems for retrofitting most existing diesel-powered equipment in underground metal and nonmetal mines are commercially available, the successful application of these systems is predicated on solving technical and operations issues associated with the circumstances unique to each mine. Operators will need to make informed decisions regarding filter selection, retrofitting, engine and equipment deployment, operation, and maintenance and specifically work through issues such as in-use efficiencies, secondary emissions, engine backpressure, DPF regeneration, DPF reliability and durability.

NIOSH had even more to say to MSHA on this matter in response to MSHA's call for comments on its Advance Notice of Proposed Rulemaking for the current rule. As quoted by MSHA, NIOSH, in commenting specifically about the results of Canadian feasibility tests of filtration for both heavy-duty (>277 horsepower) and light duty (50 hp) vehicles, offered some advice it repeated later but added more:

The results from these tests reveal that DPF systems...offer promising technology. However, this technology needs significant additional evaluation and some possible re-engineering for underground mining applications. In-use deficiencies, secondary emissions, engine backpressure, DPF regeneration, DPF reliability and durability are major issues requiring additional research and engineering. In addition, it has been found that deployment of most systems, particularly those which require active means of regeneration, require major changes in miners' attitudes toward engine and DPF maintenance. NIOSH's DEEP experienced [sic] showed that emission-based engine maintenance, greater discipline on the part of the vehicle operator, and better operations logistics (e.g., multiple locations of regeneration stations for a single vehicle) are imperative for success of DPF technology.⁷⁰

⁶⁹ John Howard, M.D., Department of Health & Human Services, Centers for Disease Control, National Institute for Occupational Safety & Health, correspondence to David Lauriski, (June 25, 2003), at 1.

⁷⁰ NPRM, at 48695.

We would also add two other circumstances left out of the recitations by NIOSH: practicality and cost. Moreover, we would point out that, since these systems are equipment-based, operators must make micro-based decisions applicable to each relevant piece of diesel equipment, as well as the macro-decisions; i.e., mine-wide, that NIOSH is talking about.

NIOSH's most recent view of filtration appears to be that the technology is as yet unproven in most mining environments. In a September 2003 draft of its Stillwater filtration feasibility study, the Institute said:

This short-term study addressed some issues related to the selection and installation of filtration systems, but was not able to address other important issues related to the implementation and operation of DPFs, namely regeneration of DPF systems during the production cycle, their reliability and durability. *Addressing these issues will require long-term studies* with continuous monitoring of performance of the DPF systems and periodic emissions testing [emphasis added].⁷¹

Once again, though, MSHA appears poised to disregard the advice of its research agency. Despite NIOSH's cautionary statements, MSHA considers active filter regeneration feasible. NSSGA does not. Neither do the Engine Manufacturers Association (EMA) nor its European counterpart; they cite a statement by the EPA which they say indicates that Agency also considers active regeneration impractical: "Emission control systems which require an operator to physically perform alterations or additions to a system may not be effective in the field in achieving emission benefits, especially if not performing those acts would seriously damage engine performance."⁷²

An example may help to illustrate why active regeneration is impractical. An individual is told he needs an anti-pollutant exhaust filter required by new government regulations before it will pass inspection. He is told he must take his vehicle to one of several filter manufacturers, who will run tests to see what is the best filter for him to purchase for his car. He does this, and is

⁷¹Aleksandar Bugarski, et al., U.S. Department of Health & Human Services, Centers for Disease Control, National Institute for Occupational Safety and Health, *The Effectiveness of Selected Technologies in Controlling Diesel Emissions in an Underground Mine – Isolated Zone Study at Stillwater Mining Company's Nye Mine: Draft Report*, (September 8, 2003), at 7 ("Bugarski, et al., NIOSH").

⁷²Engine Manufacturers Association and Euromot, *Investigations into the Feasibility of PM Filters for Nonroad Mobile Machinery: A Joint EMA & Euromot Report*, (August 31, 2002), at 12.

sold a unit that requires he remove the accumulated soot after each day's driving by removing the filter and inserting it into a heating unit that burns off the collected airborne debris. He is told if he is not diligent about doing this, pressure will build up and damage the engine. If that happens, he is warned, the warranty on his engine will be voided. But if he pays to have a backpressure gauge installed, this warning system should make engine blowup less likely. The car is parked outside, unsheltered, so the heating unit must be installed in the home, rather than set up inside the garage, usually the most practical location if a garage were available.

The car owner is a family man with a wife and two kids. His first dilemma is where does he set up the heating unit so the kids don't get into it and get hurt, and where there is sufficient ventilation to carry away the smelly vapors. Over his wife's strenuous objections, he has the unit installed in a special lockable box in the master bathroom. The kids are less likely to go here, he reasons (in the event he forgets to lock the box), and the bathroom's exhaust system will carry away the odors. The unit requires a 220V line, so he has to have a special electrical line installed. He sees his electric bill skyrocket. He also must invest in a spare filter in case the first one wears out or breaks down unexpectedly, and to give him greater flexibility in his burning schedule. Every other week or so, he dumps the unburned ash in the heater into the garbage.

He is scrupulous about burning off the dirt, although when the weather is inclement, he refuses to do it, and just hopes the backpressure doesn't do in his engine. But his job requires travel, and try as he might, he cannot convince his wife to maintain the filter while he's away. She also isn't good about monitoring the car's gauges; however, she will park the car when the backpressure gauge enters the red zone, then call the neighbor over for help. But that situation can't last forever. He wonders if all the trouble and expensive are worth it.

If this sounds far-fetched, read what MSHA says operators who commit to filtration systems must do.⁷³ Mine operators must do their homework, MSHA says, before ordering a filtration system because it is critical for filter performance and efficiency to match the filter to the equipment and consider how the equipment is to be used in the mine. Every application, MSHA advises, is "unique."

⁷³ NPRM, at 48696-48697.

Mine operators should start, MSHA advises, by assuring affected engines are properly maintained. Then the operator needs to obtain the necessary equipment and train appropriate personnel, so they can collect accurate exhaust temperature logs or traces over several shifts. These are used to determine a suitable filter system for the vehicle. The system is then installed. MSHA recommends a backpressure gauge be installed on every vehicle equipped with a filtration system. Backpressure buildup signals that the filter is overloading. If backpressure builds up excessively on an active filtration system, loss of engine power could occur, or the manufacturer's warranty on the engine could be invalidated. On a passive system, regeneration of an excessively soot-laden filter may create temperatures hot enough to crack or melt the filter element, thus compromising the filter's efficiency, the Agency says. Regardless of the system, ash, an unburnable component of diesel soot, must be removed every 1,000 hours of operation or so to avoid "thermal runaway"; i.e., the filter catching on fire, with potentially devastating consequences for the equipment operator, the vehicle and bystanders.

For nearly all active filtration systems; i.e., those requiring the equipment operator to be actively involved in periodically removing the filtered particulate material, one or more stations to burn the material off the filter must be set up as well somewhere in the underground mine. Space must be found to accommodate the regeneration facility and, because of the increased electrical requirements these regeneration stations require, a dedicated electrical line may also have to be installed to the station. These requirements are beyond the capability of some mines.⁷⁴ The equipment must also be moved to a regeneration station or a spare needs to be available that can be used to replace the clogged filter by the next equipment operator coming on duty. In some instances, the machine must be down to allow time for regeneration. MSHA estimates downtime at about an hour, but NIOSH investigators reported that about 8 hours are needed to completely clean a cordierite filtration element.⁷⁵ If filters are too bulky or heavy, MSHA says consideration can be given to reconfiguring the vehicle to allow multiple, smaller filters to be installed. Equipment operators must be trained to do what is necessary to maintain the filters and to monitor the backpressure gauge; research has shown that considerable operator resistance to these new duties must be overcome for the program to be successful.

Passive filter systems are designed to be largely invisible to the operator; i.e., in theory at least, they regenerate themselves without operator intervention. As such, they would seem to be the

⁷⁴ Bugarski, et al., NIOSH, at 14.

⁷⁵ Ibid, at 16.

preferred choice of most operators, especially those faced with employees reluctant to commit to the additional work and inconvenience required to maintain active filtration systems. But passive systems are not free of problems either. MSHA says any passive filtration system is capable of generating harmful nitrogen dioxide gas. Therefore, mine operators who select a passive system must have NO₂ monitoring equipment on hand and train personnel in proper sampling procedures, especially in localized areas outside the path of the main ventilation system.

MSHA also points out that under certain circumstances, some passive filtration systems have exhibited marginal regeneration because the duty cycle exhaust temperature is insufficient to burn off all the accumulated soot. Slowly the particulate matter builds up until the filter has to be regenerated manually.

According to MSHA, any filtration system may mask certain engine malfunctions (excessive soot emissions, intake air restriction, fouled injector and over-fueling) that would not otherwise have been masked had the filtration not been in place. Such malfunctions are characterized by an excessively smoking exhaust. Therefore, besides assuring proper engine performance during routine maintenance, MSHA recommends conducting emission checks upstream of the filter using carbon monoxide gas as the problem indicator. The filter may also mask excessive oil consumption, sometimes associated with release of blue smoke from the exhaust. In this instance, MSHA advises diligence in record-keeping of oil consumption to detect this problem.

Besides a malfunctioning engine, the filter system itself can go haywire, mainly due to the aforementioned thermal runaway, or from shock, vibration or improper “canning” of the filter element in the filtration system that can cause leaks around the filter element. To deal with these possibilities, MSHA suggests use of a smoke spot test. Special equipment needs to be purchased to perform this test and, of course, individuals need to be trained in its proper and effective use.

If all this sounds daunting, it is. But that’s not all a mine operator who chooses filters needs to worry about. Mining engineer John Head points to additional problems with filters. Discussing a Canadian filtration efficacy test project, the researchers unexpectedly discovered that “inherent leakage in the exhaust system becomes a significant source of DPM” when

efficient exhaust particulate filters are installed and ambient diesel particulate loading declines. Corrective action takes the form of exhaust system redesign, he said.⁷⁶

Stone operators have been wary of filters since the beginning because of the problems and costs associated with them. As NIOSH pointed out in commenting on one type of active system, “This [DCL BlueSky system which requires off-shift return of the vehicle to a regeneration station] and similar active DPF systems have been rejected so far by mine operators on the presumption that their operation would be excessively complicated and demanding.”⁷⁷ Here’s what one stone operator had to say about filters: “...engine filters are too large of an expenditure to partake unless it is deemed necessary. Yearly maintenance is also real high for engine filters...management will not consider engine filters until it is deemed as the last resort when all other controls have failed.”⁷⁸

Based on the afore-mentioned issues an operator must go through when considering filters as a control technology, it’s no wonder these devices are avoided, because requirements to determine their mine-worthiness are beyond the scope of most operators. Mines are set up to sell ore and to make a profit doing so; they are not set up to perform mini-research projects to determine if filters are going to work on every piece of equipment MSHA believes might need them. Clearly, an operator could hire a consultant to work through the myriad details associated with determining the suitability of a filtration control device, if the operator can afford one. MSHA must not have thought consultants would be needed because costs to hire them are absent from MSHA’s economic feasibility analyses.

Stone operators have been committed to meeting MSHA’s unjustified interim PEL. Still, judging by the results of MSHA’s recently completed baseline studies, a significant portion are having trouble doing so, as 16.2% of the stone samples were out of compliance with the interim limit. Clearly, many more will be unable to comply with the final PEL.

While the majority of stone operators are drawing upon the entire panoply of recommended control measures to come into compliance, except for worker rotation and filtration, the most promise seems to come from ventilation upgrades. This may be due in part to the

⁷⁶ Head, 2002, at 12.

⁷⁷ Bugarski, et al., NIOSH, at 18.

⁷⁸ Kerford Limestone Company, *DPM Status Report*, (September 29, 2003), at 6.

characteristically low ventilation rates in most underground stone mines, as well as to the fact that the trona mines, which are heavily ventilated because of their gassy nature, have successfully met both MSHA's interim and final PELs on the strength of ventilation alone. A focus on ventilation is in direct contrast to recommendations from MSHA, which tend to downplay the necessity of making major ventilation upgrades. We suspect MSHA's subordination of ventilation improvements is due to its recognition that making such changes is generally very costly; as such, it would void the under-estimates so characteristic of MSHA's economic feasibility analyses.

The example of one stone operator, Kerford Limestone, is a case in point. After commissioning a ventilation and DPM study, this operator decided that ventilation would be its primary method of compliance. The ventilation consultant was asked to determine control options and costs for complying with the final PEL. Results of that effort produced an estimate of \$348,450 for engine improvement and \$1.15 million for improvements to the ventilation system. Additional costs for proposed filter maintenance are estimated to range from \$25,500 to \$38,500 per year.

To date, the mine has focused on complying with the interim limit, and, in so doing, has invested \$975,000 since October 2001, primarily for ventilation improvements; however, the cost also includes the consultant study costs, a new blasting rig, and a new engine for a bolting rig. The bulk of this expenditure, \$500,000, was to drop a new ventilation shaft.⁷⁹ This mine participated in the 31-Mine Study. In contrast to the costs it has spent to date, MSHA, based on sampling results from the 31-Mine Study and applying its Estimator, put first-year costs for this mine to comply with the interim limit at \$77,600.⁸⁰ MSHA estimates for this mine alone are off by more than \$1 million! If the Agency's estimates are as understated at the 109 other stone mines, this rulemaking for the underground aggregates industry alone would exceed \$100 million, defined in EO 12866 as a significant regulatory activity, and making the rule eligible for special Congressional oversight. Besides stone mines, the estimates appear to be off for at least some metal mines as well. Newmont's Wes Leavitt reported that his company has invested \$1.9 million for filters alone, and plans to pay another \$1.1 million for a new ventilation shaft to

⁷⁹ Ibid., at 4-5.

⁸⁰ US Department of Labor, Mine Safety and Health Administration, *MSHA's Report on Data Collection During a Joint MSHA/Industry Study of DPM Levels in Underground Metal and Nonmetal Mines*, (September 2002), at 124 (31-Mine Study).

service two of its mines. The ventilation figure excludes \$414,000 a year in increased energy costs.⁸¹

Despite these costly changes, mine management at Kerford believes it will need to make even further changes to comply with the interim limit. They are listed in this order of priority:

- Ventilation improvements
- Cab improvements
- Other engineering controls
- Other administrative controls
- Engine replacement
- Engine filters⁸²

This operator has been forced to make these changes, even though its highest recorded DPM value from personal exposure monitoring was 490 micrograms per cubic meter of total carbon ($\mu\text{g}/\text{m}^3_{\text{TC}}$).⁸³

MSHA's Economic Assessments are Wholly Inadequate

MSHA's most recent economic analysis cannot be viewed in isolation. It must be considered in light of the economic analysis that accompanied the final rule issued in 2001. That earlier rule noted an overall impact on Metal/Nonmetal of 0.675% of revenue. MSHA uses an impact of >1% as its criterion for determining if a regulation has a significant regulatory impact. As an industry consultant noted, revenue is an inappropriate measure. Profitability should be the barometer instead⁸⁴

MSHA's 2000 economic assessment found a significant impact - 2.16% - on mines with fewer than 20 employees, as well as an impact on revenues of 1.28% for mines with more than 500 employees. For mines between 20 and 500 employees, the impact, according to the agency, was

⁸¹ MSHA, Salt Lake City Hearing, at 98-99.

⁸² Kerford, at 6.

⁸³ 31-Mine Study, at 103.

⁸⁴ Head, 2002, at 17.

0.21%. By the Agency's own admission, therefore, the rule would have a significant economic impact on a major subset of the Metal/Nonmetal mining industry; i.e., one comprising 72% of all underground dieselized Metal/Nonmetal operations. In 1999, industry submitted its own estimates of the cost of the regulation, concluding that total annual compliance costs would be \$60.4 million, more than four times the \$19.2 million MSHA estimate, and even then, the industry analysis did not examine the estimated economic impact of all the DPM rule provisions, only some of them.⁸⁵ In response, MSHA revised its estimates upward to \$25.1 million when it issued its final economic analysis,⁸⁶ but that figure still falls far short of the mark. All Head's comments on economic feasibility are incorporated by reference. NSSGA notes that under-estimation of control technology costs by the Agency is apparently not limited to Metal/Nonmetal; the Agency may also have understated those costs in the coal sector by a factor of 5-10.⁸⁷

What is mystifying about MSHA's latest economic analysis is that it skips altogether the cost of control options other than respiratory protection. It includes the cost of applying for an extension of time to meet the interim limit, but excludes consideration of the rather obvious fact that the only way for the operator to get out of the extension of time loop, the operator must come into compliance, and do that, the operator must eventually implement controls beyond respiratory protection. This is a major shortcoming of the analysis.

Costs to comply with both the interim and final limits were spelled out in the final economic analysis in 2000. But, as noted above, those estimates are deficient for a number of reasons. As a consequence, industry is calling upon MSHA to put forth as part of this rulemaking, in light of current knowledge and information, an accurate cost accounting for its DPM regulation. The 2000 analysis must be redone because:

- costs for filters are based solely on active filter regeneration. But not all costs associated with active regeneration are included, such as accounting for the

⁸⁵ H. John Head, *Review of Economic and Technical Feasibility of Compliance Issues Related to: Department of Labor – MSHA 30 CFR 57 – Proposed Rule for Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners*, Prepared under Contract with the National Mining Association, (July 21, 1999), at v.

⁸⁶ US Department of Labor, Mine Safety & Health Administration, Office of Standards, Regulations and Variances, *Final Regulatory Economic Analysis and Final Regulatory Flexibility Analysis: Final Rule on 30 CFR Parts 57*, (December 2000), at 2 (MSHA's Final Economic Analysis").

⁸⁷ Adele Abrams, Memorandum to Charley Maresca, SBA, and Jim Sharpe, NSSGA, (October 8, 2003).

widespread resistance by equipment operators to his/her new work responsibilities, the loss of production and manpower costs in moving a piece of equipment at the beginning and end of a shift from/to a regeneration station, costs to install a dedicated electrical line for the regeneration station, and increased utility costs. The vastly preferred method of filtration by operators is passive filtration. But MSHA doesn't even consider costs for this filtration option, which include routine monitoring for nitrogen dioxide levels and installation of backpressure gauges on affected vehicles.

In both cases, temperature logs must be taken to determine which of the two systems, active or passive, are more feasible, and smoke test equipment purchased to verify the effectiveness of filters while they are operating. Of course, there are also no costs for premature failures, even though a percentage of all filters in use are likely to fail due to some cataclysmic event, such as a thermal runaway; i.e., uncontrolled regeneration that could lead to a fire or explosion, the effect of which would, at a minimum, require replacement of the filter. Recent hearing testimony by one industry commenter revealed that he had seen recent evidence of trap failures at 170 hours; Mark Good of the Greens Creek mine and Wes Leavitt of Newmont told similar stories.⁸⁸

The earlier economic analysis⁸⁹ estimated a cost of \$12,500 to install a ceramic filter on a large engine, but the Agency quotes a price of \$20,000 for the same work in the proposed rule.⁹⁰ This clear cost differential is reason alone for the Agency to revise its cost figures.

MSHA also suggests operators of gassy mines might consider installation of a heat exchanger to non-permissible equipment in order to use paper/synthetic filters,⁹¹ but no cost estimates are provided for this technology.

- MSHA relies on filter manufacturers to tell them the expected useful life of filters. It goes without saying that manufacturer representatives will provide only best-case

⁸⁸ MSHA Salt Lake City Hearing, at 49, 74-76, and 98, respectively.

⁸⁹ MSHA's Final Economic Analysis, at 38.

⁹⁰ NPRM, at 48711.

⁹¹ NPRM, at 48682.

scenarios. In practice, as noted above, filters do not last nearly as long as their manufacturers say they will. MSHA needs to revise these cost estimates to reflect reality.

- No mention of the cost of ventilation upgrades is made in the current economic analysis, yet in the NPRM, MSHA lists examples from its compliance outreach efforts at eight mines where ventilation system upgrades were suggested as a means to lower DPM emissions.⁹²
- We are totally in disbelief that MSHA projects *negligible* costs for its requirement for the use of low-sulfur fuel. Its rationale is incomprehensible. Operators must pay a substantial premium for this fuel over regular #2 diesel. As NIOSH reports, this situation now exists at the Stillwater mine: “Diesel D1 is significantly more expensive than diesel D2. Using diesel D1 instead of D2 was part of the mine’s efforts to reduce exposure of underground miners to diesel emissions.”⁹³
- No costs are provided for biodiesel fuel or fuel catalysts. One operator estimated the price differential between low sulfur fuel and biodiesel at 30 cents a gallon,⁹⁴ and that excludes the cost of providing on-site storage facilities. At the Pittsburgh hearing, George Love of Carmeuse said the current government subsidy on biodiesel was set for reduction in 2004 and to expire altogether in 2005. As a result, per gallon costs for B-100 fuel will rise to \$2 or more next year, vs. \$1.67 now. The cost has already shot up, he added, from \$1.47 a gallon. Low sulfur diesel fuel, bought in bulk, costs his operation \$0.89 today. He put the cost of B-35 fuel at \$1.16 a gallon. In 2002, he continued, Carmeuse’s Maysville operation bought about 400,000 gallons of fuel for its underground mine. The difference in cost between B-35 and #2 diesel for the year was \$109,000.⁹⁵ Industry consultant John Head said he had learned that at least one operator reported a \$0.82 differential between the cost of biodiesel and low sulfur fuel. The industry as a whole uses about 31.9 million gallons of fuel a year, he added.⁹⁶

⁹² Ibid., at 48681-48682.

⁹³ Bugarski, et al., NIOSH, at 18.

⁹⁴ Todd Scott, River Products Co., Personal Communication, Oct. 10, 2003.

⁹⁵ US Department of Labor, Mine Safety & Health Administration, *Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Mines: Public Hearing*, Pittsburgh, PA, (September 23, 2003), at 24-26 (“MSHA Pittsburgh Hearing”).

⁹⁶ John Head, Personal Communication, Oct. 8, 2003.

- Maintenance costs associated with lower emitting engines are also missing from MSHA's calculations. Love of Carmeuse cites the example of large Caterpillar Tier II engines using an excessive number of fuel filters. "The cost of fuel filters has quadrupled," he said, adding that "equipment downtime related to filters must be considered in the economic evaluation." He goes on to quantify that the costs associated with increased fuel usage, equipment downtime and lost production adds up to a loss of about \$8,100 a month, and, eventually an estimated \$353,000 per year after his fleet is converted to Tier II engines. Other costs, for example, for working maintenance personnel who normally would be off, are not included in his estimate.⁹⁷
- MSHA's assumption, as revised based on comments from Head, that stone mines employ an average of 20 dieselized vehicles underground is unsupported by data from 11 underground stone mines supplied to NSSGA. This group had an average of 28.5 pieces of equipment at work underground, a significant increase over MSHA's estimate.⁹⁸
- Another look needs to be taken at the cost of cabs as a control option. Head disagreed with MSHA on its cost estimates for this control measure, but MSHA dismissed his concerns.⁹⁹
- No costs are provided for engine or equipment replacement as a control option because MSHA says operators will do that in spite of the rule. NSSGA has reports from three operators who have replaced an engine or a piece of mobile machinery in response to the new regulation at a total combined cost of \$185,000. One stone operator estimated it would cost \$3 million in equipment replacement costs to meet the final PEL.¹⁰⁰ Mark Good of Greens Creek reported at the Salt Lake City hearing that his company had been repowering some of its equipment as well to reduce emissions; Wes Leavitt said the same thing.¹⁰¹
- No costs are provided for good maintenance procedures as a control option. Testimony presented at the NIOSH diesel hearings earlier this year from Canadian

⁹⁷ MSHA Pittsburgh Hearing, at 26-29.

⁹⁸ National Stone, Sand & Gravel Association, Responses from 11 Underground Stone Mines to a Diesel Particulate Questionnaire, (January-March, 2003) ("NSSGA Questionnaires").

⁹⁹ MSHA's Final Economic Analysis, at 42.

¹⁰⁰ NSSGA Questionnaires.

¹⁰¹ MSHA Salt Lake City Hearing, at 78 and 97, respectively.

researchers indicates this is not a cheap option; it could run \$200,000 a year per mine alone.¹⁰²

- MSHA's decision not to include the cost of approved engines in its calculations merits closer scrutiny. These costs are not insubstantial; the Agency puts the cost at about \$16,600 per approval.¹⁰³
- The price per metric ton of crushed stone in 2002 was \$5.72¹⁰⁴ – not the \$23.67 per metric ton price set forth by MSHA in its PREA.¹⁰⁵
- Many miners have facial hair and therefore cannot wear a negative pressure respirator. Although the courts have upheld the right of employers to require employees to shave to accommodate this protective device, some operators, in the interest of promoting harmonious labor-management relations, may not choose to enforce the dictum. Facial hair is no issue when powered air-purifying respirators are used; however, these respirators are significantly more expensive than negative pressure devices. MSHA needs to include this contingency in its economic analysis. Of course, its economic analysis will be rendered invalid if its final rule requires medical surveillance or transfer provisions for respirator users.
- MSHA dismisses the cost operators, in anticipation of the rule, incurred by reshuffling equipment from mine to mine.
- Compliance costs for contractors working underground are not considered. This is a significant omission because MSHA estimates the number of these contractors at 453, employing 3,661 individuals.¹⁰⁶
- MSHA's cost estimates for sampling in the 2000 analysis were unrealistically low, a point the Agency acknowledged in its 2003 analysis, by increasing the time allowed for a miner to be sampled to 8 hours from 20 minutes. Not only are sampling times

¹⁰² Presentation by Sean McGinn, McGinn Integration, Inc., at NIOSH Seminar, *Diesel Emissions and Control Technologies in Underground Metal and Nonmetal Mines*, Cincinnati, OH (February 27, 2003).

¹⁰³ MSHA's Final Economic Analysis, at 60.

¹⁰⁴ U.S. Geological Survey, Crushed Stone Statistics and Information, http://minerals.usgs.gov/minerals/pubs/commodity/stone_crushed/.

¹⁰⁵ PREA, at 25.

¹⁰⁶ PREA, at 4.

- still under-estimated, so are sample costs,¹⁰⁷ sample equipment costs, the extent and cost of the associated paperwork, and training costs for the sampling technician.
- Training costs are ridiculously low, estimated at no more than 30 minutes in larger miners to 15 minutes in smaller operations and includes the time for administrative details, including signing in for training. Training often takes place at a central location far removed from the miner's place of work, so travel to the work location must be included in the calculation, and most miners don't hurry getting there. MSHA required subjects consist of: health risks, methods the mine is using to control exposure, identification of personnel responsible for maintaining those controls, and actions miners must take to ensure controls operate as intended. Try doing all that in 15 or 30 minutes while also allowing time to answer questions. A better overall estimate would be two hours. Also not included are costs for the instructor to familiarize him/herself with the diesel rule and prepare the lesson. If he/she uses a film to, say, show the health effects, those costs aren't included either.
 - Absent are any costs associated with reading the new rule, reviewing MSHA's compliance and enforcement guides, using its Estimator and filtration guide, consulting with MSHA during compliance assistance visits, participating in MSHA hearings to provide testimony, responding to MSHA's call for comments on its various diesel initiatives, attending workshops and seminars designed to explain the rule, provide updates on state-of-the-art controls, relate the experience of other mine operators in compliance, etc. Both MSHA and NIOSH have held numerous seminars and workshops on this issue since the rule was promulgated and hundreds of persons, perhaps more, attended. Where in the economic analysis are the labor and travel expense costs for all this?
 - Ignored among the cost data for special extensions are expenses for mining engineers and consultants to analyze the mine-specific situation to determine if an extension is needed, and appeal costs in the event the extension is rejected.

¹⁰⁷ Those costs were seriously under-stated, as consultants charge \$400-\$500 a day + expenses and some even tag on a special equipment use fee. In contrast, MSHA put their fees at just \$75 per sample.

- While arguing that its economic data for the final rule cannot be used this time around, the Agency nonetheless has included *benefits* data from the 2001 rule. The result is to minimize the costs of the proposed rule. But, NSSGA believes, the Agency cannot have it both ways: if it will not include costs from the final rule, it must exclude the purported benefits as well.

Industry expert John Head will submit additional comments before the close of this comment period on the technical and economic feasibility of MSHA's diesel rule; we fully support and incorporate those comments by reference.

Significant Risk Remains Unproven/MSHA's Quantitative Risk Assessment is Unsupported

NSSGA supports every effort to safeguard the health and safety of our nation's miners, but believes regulations designed to promote worker health and safety must be based on sound science and technical and economic feasibility. We do not believe MSHA makes its case in its diesel rulemaking for the imposition of DPM exposure limits to protect underground miners.

MSHA goes to considerable length to justify both the need to regulate DPM based on adverse health effects, and the specific exposure limits set forth in the final rule.¹⁰⁸ The risk characterization in the final rule follows one that appeared in the proposed rule, and predates an updated risk characterization in the current proposed rule.

Experts hired by industry to examine the MSHA evaluations of the existing DPM and PM_{10/2.5} particulate literature have effectively criticized MSHA assumptions and conclusions, and do so again in the current rulemaking. Aside from a few remarks, NSSGA will not separately offer its own critique, but incorporates into the record of this proceeding all the comments ever made relating to MSHA's regulation of DPM by Drs. Jonathan Borak, Peter Valberg and Howard Cohen, and of remarks made by IMC Global, the National Mining Association and the MARG Coalition.

MSHA's DPM quantitative risk assessment (QRA) is predicated on the risk of miners contracting lung cancer. Yet whether or not DPM causes or contributes to lung cancer in miners

¹⁰⁸ MSHA's Final Rule, at 5764-5855.

remains an area of scientific debate, in part because of the general lack of exposure-response data, low power of some studies, weak association, the influence of confounders, and conflicting results. Further, MSHA itself acknowledges that science cannot agree on dose-response,¹⁰⁹ or that benefits can be reliably quantified.¹¹⁰

A select panel was commissioned by the influential Health Effects Institute (HEI) specifically to examine if the current epidemiologic literature was sufficient to support development of reliable estimates of the magnitude of any risk for lung cancer. In its June 1999 report, HEI concluded that only two studies reported any quantitative exposure data, but neither was sufficient to support a QRA. HEI recommended further research.¹¹¹ We believe the HEI evaluation represents the most current and definitive word on a QRA at this time, and alone justifies that MSHA hold its fire on PELs until the QRA database improves. Studies are currently underway, the most prominent, a massive 10-year investigation of miner exposure to DPM underway by the NIOSH and the National Cancer Institute (NCI/NIOSH). This study, which is nearing completion, is expected to significantly inform the scientific debate on the QRA issue. We urge MSHA to pull its final PEL at least until the results of this study are known and fully evaluated.

MSHA's decision to consider a risk of 1.1 in epidemiologic studies "as constituting a clearly significant health hazard"¹¹² is baffling. It is universally agreed that epidemiology is an imperfect science. Therefore, to account for the inevitable uncertainties in such investigations, risk determined through such evaluations to fall below about double (2.0) the expected risk tends to be given less consideration by researchers, if any at all.¹¹³ MSHA is well aware of this position, and counters, in part, in its risk assessment that (1) the weight of the evidence is overwhelmingly in the direction of a positive effect, and (2) some 23 data subsets within 18 of the studies it cites in support of its position show relative risks at or in excess of 2.0.¹¹⁴

¹⁰⁹ Ibid, at 5710.

¹¹⁰ Ibid, at 5714.

¹¹¹ Health Effects Institute, *A Special Report of the Institute's Diesel Epidemiology Expert Panel*, (June 1999), at 4 ("HEI").

¹¹²MSHA's Final Rule, at 5785.

¹¹³Meta-analyses studies that MSHA gives considerable weight only fall into the 1.4 to 1.5 range.

¹¹⁴MSHA's Final Rule at 5836-37.

Nevertheless, of the 41 of 47 studies cited to support its position in the final rule, MSHA itself finds sufficient fault with 23 of them as to, in our opinion, cast doubt on their reliability. Those studies along with the major concern MSHA has with them are (c = cohort study, cc = case-control):

Little Power

Lerchen, et al., 1987 (cc)*
 Ahlman, et al., 1991 (c)
 Gustavsson, et al., 1990 (c) (cc)
 Leupker & Smith, 1978 (c)
 Milne, 1983 (cc)
 Rushton, et al., 1983 (c)
 Waxweiler, et al, 1973 (c)
 Benhamou, et al., 1988 (cc)*
 Boffeta, et al., 1988 (c)
 Swanson, et al., 1993 (cc)*

Semi-Quantitative Exposure Assessment

Garshick, et al., 1988 (c)
 Gustavsson, et al., 1990 (c) (cc)
 Emmelin, et al., 1993 (cc)
 Garshick, et al., 1997 (cc)
 Siemiatycki, et al., 1988 (cc)*
 Steenland, et al., 1990, 1992 both cc)*

Selection Bias

Buiatti, et al, 1985 (cc)
 Coggan, et al., 1984 (cc)
 Garshick, et al, 1987 (cc)
 Hayes, et al., 1989 (cc)*
 Lerchen, et al., 1987 (cc)*
 Steenland, et al., 1990 (cc)

No Exposure Assessment

Wong, et al., 1985 (c)
 Bruske-Hohlfeld, et al., 1999 (cc)
 Benhamou, et al., 1988 (cc)*
 Boffeta, et al., 1990 (cc)
 Hayes, et al., 1989 (cc)*
 Swanson, et al., 1993 (cc)*
 Rushton, et al., 1983 (c)

Potential Confounders

Benhamou, et al., 1988 (cc)*
 Siemiatycki, et al., 1988* (cc)
 Morabia, et al., 1992 (cc)*

*Studies of miners.

Numerous investigators, in evaluating epidemiologic studies, apply criteria first enumerated by A. Bradford Hill. The nine Hill criteria are strength of association, consistency, specificity, temporality, biologic gradient, plausibility, coherence, experimentation, and analogy.¹¹⁵ A

¹¹⁵B. Burt Gerstman, *Epidemiology Kept Simple: An Introduction to Classic and Modern Epidemiology*, Wiley-Liss, 1998, at 204-211.

similar set of standards was put forth in 1964 from a panel convened by the U.S. Surgeon General.¹¹⁶ Although MSHA applies some of these criteria to its evaluation of the epidemiologic literature, nowhere in its risk assessment do we see evidence the criteria were applied consistently, completely or uniformly. We believe the burden rests with MSHA to draw conclusions on DPM health effects from the epidemiologic literature only after properly applying scientifically accepted criteria. Since we do not believe the Agency has done so in this instance, we must discount the risk assessment and insist the Agency do so as well.

Worker Rotation Should Not Be Banned

In both the existing and proposed rules, MSHA prohibits worker rotation as an administrative control to reduce employee exposure levels. The prohibition is included even though worker rotation is routinely practiced and used as an effective means for reducing employee exposures to numerous harmful substances and conditions including chemicals, noise, vibration, extreme temperatures, and repetitive motions in a multitude of industries in the U.S. today, including mining. MSHA specifically sanctions the practice in its other health rule on noise.

MSHA reasons that the ban is necessary because DPM is a human lung carcinogen,¹¹⁷ hence rotation would increase the risk of spreading cancer over a working population. The decision has the support of OSHA, MSHA's sister agency.

As we have written in this rulemaking and in previous comments on earlier DPM regulations, MSHA's claim of the carcinogenicity of DPM is far from free of controversy. Supporting epidemiologic studies are conflicting, show only a weak association if any at all, lack sufficient statistical power and/or adequate dose-response relationships. Results are clouded by potential confounders: smoking, diet, alcohol, crystalline silica, radon, socio-economic factors, and others. Study results "are generally consistent with a weak association" between lung cancer and diesel exhaust, an expert panel of the Health Effects Institute said several years ago,¹¹⁸ but not everyone agrees.

¹¹⁶Gerstman, at 203.

¹¹⁷ Statement by MSHA panelist James Petrie at MSHA public hearing on DPM in Arlington, VA (October 7, 2003).

¹¹⁸HEI, at 2.

Diesel exhaust is not classified as a known human carcinogen, as is tobacco smoke, asbestos, radiation, benzo-a-pyrene, vinyl chloride, chromium VI or a few other substances for which the record of carcinogenicity is not equivocal, as it is for DPM. No respected health organization, national or international, has been willing to be definitive about the carcinogenic property of DPM; even the government's premier health and safety research organization, NIOSH, will say no more than that it is a "potential" carcinogen. Does MSHA, which is itself not a health research agency, have information these other agencies lack? Until the health data become more convincing, the Agency should not treat DPM as a lung carcinogen.

A fundamental principle of toxicology is the dose makes the poison; in other words, a threshold exists for chemical exposures. Many of the very studies MSHA touts as supporting a DPM carcinogenic effect show no effect whatsoever on workers at low exposures, suggesting a threshold effect is working with DPM.

Besides disagreement on the health effects data, there also are conflicts between governmental agencies on the use of rotation as a control measure in the face of exposure to carcinogens. While the Department of Labor bans the practice, Department of Energy (DOE) employs it, and does so for a highly carcinogenic substance, radiation. Despite the well-documented adverse effects of radiation on genes, chromosomes, cell survival, tissue regeneration, skin, bone marrow, intestine, oocytes, sperm, lens of the eye, and respiratory system, DOL allows a whole-body-equivalent external dose of 5 rems/year, equivalent to a lifetime risk of greater than one in ten. This risk is far greater than the lifetime exposure risk to chemical carcinogens at currently permitted occupational exposure levels.

MSHA bans worker rotation but allows another control procedure, respirators, which are so inconvenient to wear for a variety of reasons that workers often refuse, or defeat the protective power of the devices as soon as the supervisor turns to walk away. A respirator program is also not inexpensive, nor free of a substantial paperwork burden, disadvantages not experienced with the worker rotation option. For these reasons, respirators must be considered the control option of last resort. MSHA's own hierarchy of controls recognizes this.

Both the RFA and the SBREFA require MSHA to offer control alternatives. By not doing so in this instance, the Agency may be in violation of the law. In testimony to MSHA in 1999 on the proposed final rule, one operator argued persuasively that MSHA's ban on administrative

controls, including worker rotation, has been shown to be unlawful in court rulings. As the writer concluded, “The feasibility enforcement defense is an integral part of the statutory scheme for ensuring the MSHA standards are feasible, and MSHA has no authority to abandon it in this proceeding.”¹¹⁹

Throughout this proceeding, industry commenters have urged MSHA to adopt worker rotation as an acceptable control. The message is loud and clear. If MSHA does not heed the advice of the overwhelming number of stakeholders on this issue, why bother asking us for comment at all?

Conflict of Interest

One or more employees of the Department of Labor (DOL), including MSHA employee, Thomas Tomb, performed a dual role of working on MSHA’s diesel particulate matter rule and serving on a committee of the American Conference of Governmental Industrial Hygienists (ACGIH) that recommended threshold limit values (TLVs) for diesel particulate matter. MSHA cited ACGIH’s proposed TLV® of 150 _{DPM} ug/m³ in the final rule.¹²⁰ It is possible DOL employees also acted in a similar dual capacity during diesel particulate matter deliberations by the International Agency for Research on Cancer. If so, this behavior is a clear violation of DOL policy and, perhaps, federal law. We urge the Agency to delete its final PEL during this rulemaking for that reason alone. Comments, correspondence, testimony and all other communications related to this issue made by the MARG Coalition or any other industry group, company or company representative is hereby incorporated into NSSGA’s testimony by reference.

Section-by-Section Response to the Proposed Rule

A. Introduction

¹¹⁹Kennecott Minerals, *Submittal of Comments on MSHA’s Proposed Rule on Diesel Particulate Matter Exposure of Underground Metal and Nonmetal Miners (30 CFR Part 57)*, MSHA Docket No. 87-1-9, (April 29, 1999), at 20-23.

¹²⁰ MSHA’s Final Rule, at 5710.

NSSGA incorporates by reference comments it submitted to MSHA on Nov. 25, 2002 in response to MSHA's ANPRM.

B. Section 57.5060 Limit on concentration of diesel particulate matter

NSSGA agrees with the proposed changes to this section, including consideration of economic feasibility. However, we would like to see an appeals provision added for operators whose requests for extension are turned down by the District Manager. Honest disagreements do exist, and an operator should be afforded the right of due process. A specific maximum time frame – 30 days – should be incorporated for the District Manager's review. Another 60 days should be allowed to file an appeal, and for the appeal to be heard. NSSGA suggests MSHA use as its model in writing this new provision the timetable set forth in 30 Part 46 for review of training plans.

NSSGA would oppose the rejection of any application for an extension based on a finding by MSHA that the operator had failed to evaluate filter technology. As we have argued so persuasively elsewhere in this submittal, practical mine-worthy filter technology is not yet available to the industry. We reject MSHA's reasoning that an operator has failed to prove technical infeasibility when he/she demonstrates that a vehicle is unsuited for passive regeneration because of limitations in the duty cycle.¹²¹ Contrary to MSHA's view, we believe infeasibility is indeed proven when, as MSHA puts it, "a certain amount of applications engineering might be required to produce a workable or optimal system..." No right-minded person would consider feasible a government requirement to fully reconfigure *at their own expense* their automobile's exhaust system to accommodate a new filter to reduce a level of a pollutant below a benchmark that has not been scientifically substantiated, but this is just what MSHA expects mine operators in this predicament to do.

As previously stated, NSSGA opposes the ban on worker rotation. We also oppose the final PEL. Independent research performed for the MARG Coalition led to that group's recommendation of a 320 _{ECUG}/m³ equivalent to the 400 _{TCUG}/m³, not 308 _{ECUG}/m³, the limit in the proposed rule. MSHA, however, rejected that number; NSSGA is concerned, therefore, that the MSHA conversion will permit unfounded

¹²¹ NPRM, at 48710-48711.

enforcement actions. More will be said about this and about the overall accuracy of the NIOSH 5040 method at low exposure levels by MARG in its written submittal; NSSGA supports those MARG comments, and incorporates them by reference.

We do not subscribe to MSHA's proposal that a 25% or greater reduction in DPM exposure from an engineering or administrative control is significant, and thereby effective for its decision-making on technological or economic feasibility. Controls should be evaluated independently and in reference to site-specific conditions and DPM levels if meaningful decisions on significance or effectiveness are to be made. The goal is to reduce the exposure below the PEL benchmark, not achieve a reduction based on a percentage benchmark. If a DPM result is 10% over the benchmark and a reduction puts it 5% under, how can MSHA not consider that to be a significant reduction?

Respirator requirements should conform to existing MSHA requirements. NSSGA does not support a transfer provision, or the opportunity presented by this rulemaking to write a new respirator standard. If a new respirator standard is deemed necessary, it should be done through separate rulemaking. For the record, NSSGA does not believe a separate standard is necessary at this time.

C. Section 5061 Compliance determinations

We oppose enforcement of occupational health standards based on a single sample because standards are based on long-term exposure and laboratory results of single samples are not an accurate representation of a single shift exposure. The practice of taking action on the basis of a single sample result also does not represent standard industrial hygiene practice. We continue to be concerned that MSHA's newly developed and revised DPM sampling and analysis "single shift" sample analysis system is not feasible and does not provide accurate, precise, and reliable results. MSHA should retain unused DPM filter sections for analysis by mine operators.

We cannot appreciate the Agency's response that its lab process will not permit the retention of this critical evidence. First, we do not understand MSHA's comments that its use of two punches from one filter does not permit the remainder of the filter to be retained for operator analysis. Second, we are not convinced that the

corrections MSHA has added are sufficient to produce a feasible system. We ask that MSHA publish its two-punch comparative data (with separate, individual entries for each corresponding punch and blank filter results and corrections) for analysis and comment.

D. Section 5062 Diesel Particulate Matter Control Plan

NSSGA has previously voiced its opposition to the DPM control plan, as we believe it is a disproportionately extreme response to a single sample exceedance, especially considering our reservations about MSHA's single-sample enforcement practice. MSHA's noise rule, another health standard, does not require a noise control plan in the event of overexposure; we see no real benefit to requiring one here, even with the proposed changes from the 2001 regulation. In fact, because MSHA can cite for violation of the plan even though the operator may be in full compliance with the PEL, we see it as nothing more than a gotcha opportunity for the Agency with no connection to any health benefit.

If compliance is the objective, as we believe it is, MSHA has the tools for doing so now through its environmental monitoring and enforcement sampling. Another assurance of compliance is the requirement for operators to follow a hierarchy of control measures.

MSHA says it plans to delete Sec. 57.5062(f) from the final rule.¹²² This provision calls for the Secretary to consider an operator's failure to comply with provisions of the DPM control plan or to conduct verification sampling to be a violation, regardless of the concentration of DPM present. Of course, the issue of retaining or deleting this provision in the final rule becomes moot if the control plan requirement is eliminated, as NSSGA hopes will occur. However, if the DPM plan is retained, NSSGA opposes removal of this provision from the final rule. If the language explains under what conditions the operator will be cited, that is reason alone to emphasize it through retention in the final rule rather than delegate it to the Preamble, as MSHA proposes.

¹²² NPRM, at 48717.

We also view this provision as an unnecessary paperwork exercise, which could put it in conflict with the PRA, and most certainly with Presidential intent as set forth in the Small Business Paperwork Relief Act of 2002. PL 107-198 makes paperwork reduction a serious, ongoing effort; to that end, MSHA should be trying to find ways to reduce the burden on small business, not add to it.

E. 57.5075 Diesel particulate records

NSSGA believes the rule carries too heavy a paperwork burden. We have already voiced opposition to the control plan, and here express our disapproval of a unique maintenance log and mechanic competency paperwork requirements. The tagging requirement that triggers the log is itself a paperwork requirement not mentioned as such by the Agency. NSSGA supports operator documentation of a maintenance log as a good maintenance practice, but not to any change in an operator's current forms or procedures for documenting maintenance activities. In other words, insofar as MSHA's maintenance log requirement might mean an operator will have to create a unique form beyond that already used to document maintenance, we oppose the requirement.

We also oppose the mechanic certification requirement. An operator has a market-based incentive far stronger than an MSHA citation for employing good mechanics; the very reason for existence of the business – to mine ore for sale at profit – is at stake. An incompetent or ill-trained mechanic could put that objective at risk. Most mobile dieselized equipment is very expensive; few operators would put the care of such equipment in the hands of inexperienced personnel. The Agency does not require documentation of the competency of Part 46 instructors, and there is no sound reason to require it here.